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ROYAL BOTANIC GARDENS, KEW

XLV—TROPICAL AFRICAN PLANTS: XIV.*

Dovyalis xanthocarpa *Bullock*, sp. nov. [Flacourtiaceae]; fructibus esculentis flavidis velutinis distincta.

Frutex vel *arbor*, usque ad 10 m. alta, dioica, inermis, ramosissima; rami striati, lenticellis parvis leviter obtecti, demum glabri; ramuli graciles, satis dense patente pilosi. *Folia* ovata vel elliptica vel plus minusve obovata, usque ad 11 cm. longa et 6 cm. lata, sed plerumque minora, apice acuta vel acute cuspidata, marginibus integra, supra parce pubescentia, sed costa et nervis lateralibus (utrinsecus 3–6) adscendentibus subadpresse pilosa, venis venulisque tenuiter reticulata, petiolis usque ad 1 cm. longis dense pilosis. *Flores masculi* ex axillis foliorum maturorum vel delapsorum in cymas paucifloras orti; pedunculi breves, velutino-pubescentes, 1–2 mm. longi; pedicelli velutino-pubescentes, 3–5 mm. longi, basi articulati, ex axillis bractearum parvarum orti; sepala 8, lanceolata, acuta, 3 mm. longa, 1·2 mm. lata, late patentia, utrinque velutino-pubescentia; stamina numerosa, filamentis filiformibus 2 mm. longis, antheris parvis globosis; ovarium nullum. *Flores feminei* solitares; pedunculi ebracteati, 1–1·5 cm. longi, infra medium articulati, velutino-pubescentes; sepala 8, persistentia, lanceolata, apice longissime acuminata, 7 mm. longa, 1·5 mm. lata, in statu fructifero leviter accrescentia, utrinque velutino-pubescentia; stamina atque staminodia nulla; ovarium ellipsoideum, dense flavido-velutino-pubescens, 4 mm. altum, 2 mm. diametro, biloculare; ovula in loculis basilaria solitaria; styli 2, pubescentes, apice stigmatoso-trifidi. *Fructus* carnosi, esculenti, stylis persistentibus coronati, flavidi, velutini, ellipsoidei, 2 cm. alti, 1·3 cm. diametro; semina 2, in loculis solitaria, albuminosa; embryo recta, satis magna, cotyledonibus rotundatis basi cordatis 7 mm. diametro praedita.

Tanganyika Territory. Dodoma District. Very local in the shade of riverine fringing forest of *Khaya*, *Parkia*, *Teclea*, *Ficus*, etc., on alluvial soil, at Kikombo near Mpwapwa, 1050 m., Nov. 1933 (♀ fl. and fr.), *Burtt* 5006 (type) :—a spreading much branched tree 30 ft. high; bark smooth; fruits orange and alleged by natives to be edible. Locally common in thicket of *Grewia pachycalyx*, *Vernonia senegalensis*, *Fluggea* sp. etc., with *Acacia usambarensis* at Matamondo Valley near Mpwapwa, 900 m., Jan. 1933 (♂ fl.), *Burtt* 5045 :—a spreading shrub 12 ft. high with many small yellow flowers. In alluvial soil, at Mpwapwa, 1050 m., Dec. 1930, (♀ fl. and fr.), *Hornby* 344 :—a tree

*Continued from Kew Bulletin 1935, 285.

6 m. high with white flowers and yellow edible fruits.

The large yellow or orange fruits of this species are very characteristic and serve to distinguish it from all other African species of the genus, though it is allied to a Southern Rhodesian species as yet undescribed.

Grewia filiformis *Bullock*, sp. nov. [Tiliaceae] ; inter congeneres pedunculis solitariis longe filiformibus distinctissima.

Frutex ramosus ; rami ramulique graciles, 15 cm. infra apicem 1·5–2 mm. diametro, teretes, plus minusve striati, glabri. *Ramuli abbreviati* perulati, 3–7 mm. longi, flores singulos et interdum folia 1–2 gerentes. *Folia* tenuiter herbacea, utrinque glabra, obovata, usque ad 5 cm. longa et 2·5 cm. lata sed saepe minora, apice late truncata, basin versus angustata sed basi anguste truncata, marginibus irregulariter subdistante repando-dentata, e basi 3-costata, venis venulisque tenuiter reticulata ; petioli graciles, circiter 6 mm. longi ; stipulae subulato-lanceolatae, 5–6 mm. longae, scariosae, caducae. *Flores* solitarii, ramulos abbreviatos vel etiam elongatos terminantes ; pedunculi filiformes, 4–5 cm. longi, supra duos trientes incrassato-articulati, glabri. *Sepala* anguste oblonga, 1·8 cm. longa, 3–3·5 mm. lata, apice subacuta vel obtusiuscule apiculata, extra puberula, intus basin versus tantum puberula, marginibus hyalinis. *Petala* anguste obovata vel late oblanceolata, 1·8 cm. longa, 7 mm. lata, apice ambitu rotundata et retuso-emarginata, basin versus angustata, utrinque glabra, basi appendice adnato rotundato-obovato ultra 2 mm. longo 1·5 mm. lato dense villoso-ciliato praedita, area nectarifera supra basali 1 mm. diametro. *Gynophorum* 2·5 mm. altum, apice villoso-annulatum, ceterum glabrum. *Filamenta* filiformia, glabra, leviter inaequilonga, 1–2·2 cm. longa. *Ovarium* globosum, 1·5 mm. diametro, pilis rigidis erectis satis dense indutum. *Stylus* gracilis, 1·1 cm. longus, apice stigmatoso-bifidus, infra medium pilis stellatis pubescens. *Fructus* non visi.

Kenya Colony. Mtito Andei, 750 m., *Battiscombe* (For. Dep. 922) : —a shrub.

This plant was received at Kew in April, 1919, and has not appeared in any of the numerous representative collections received since that date. It is now described, in spite of the lack of fruit, which should supply valuable diagnostic characters, in the hope that collectors will make a search for it. *Grewia filiformis* is unique in the genus on account of its long filiform peduncles, which are articulated some distance above the middle.

Indigofera annua *Milne-Redhead*, sp. nov. [Papilionaceae] ; ab *I. asparagoïdi* Taub. habitu humili suberecto compacto haud decumbente, foliis superioribus digitate trifoliolatis facile distinguenda.

Herba annua usque 18 cm. alta, densiuscule ramosa. *Rami* ascendentes vel leviter patentes, graciles, teretes, glabri ; internodia

usque 2 cm. longa. *Folia* superiora digitate trifoliolata, usque 5 cm. longa plerumque minora ; inferiora integra, obovata, in petiolum angustata, apice acuta, usque 1·5 cm. longa et 0·5 cm. lata ; stipula subulata, circiter 0·5 mm. longa ; petiolus angustissime alatus, 5–10 mm. longus, glaber ; foliola breviter petiolata, angustissimi linearia, 1·5–3·8 cm. longa, usque 1 mm. lata, acuta, plana vel margine incurvata subulata, sparsiuscule adpresse hirsuta. *Racemi* numerosi, axillares, 3–6-flori, tenuissimi, usque 5 cm. longi ; pedunculus et rhachis glabra ; bracteae circiter 0·5 mm. longae, persistentes ; pedicelli circiter 2 mm. longi. *Calyx* circiter 1·5 mm. longus, extra parcissime albo-hirsutus. *Corolla* minima. *Stamina* circiter 3 mm. longa ; antherae apiculatae. *Ovarium* filiforme, glabrum ; stylus filiformis, glaber ; stigma minutum, capitatum. *Legumen* rectum, ascendens, subcylindricum, suteris leviter crassatis, usque 2·4 cm. longum, 1·5 mm. latum, glabrum. *Semina* 10–20, rectangularia, compressa, circiter 1 mm. longa et lata, lucida, pallide luteo-brunnea.

Southern Rhodesia. Wankie, April 1932, *Levy* 36 (Nat. Herb. Pretoria 20168 (type), Transv. Mus. Herb. 30608, Kew Herb.).

The material of this species which Mr. B. Levy collected is all in fruit. The few flowers which are available prove to be too delicate to allow of dissection, and consequently the shapes and sizes of the petals have had to be omitted from the above description. The plant however is so very distinct that it seems desirable to describe it.

Indigofera shinyangensis *Milne-Redhead*, sp. nov. [Papilionaceae] ; ab *I. subargentea* De Wild. foliolo latiore et obtusiore, racemis multifloris, floribus majoribus, carina apicem versus pilis crispidulis hirsuta, legumine densissime hirsuto differt.

Herba annua usque 5 dm. alta, conspicue ramosa. *Rami* patentes praecipue inferiores, graciles, leviter angulati, adpresse albo-hirsuti, demum glabrescentes ; internodia 1–8 cm. longa. *Folia* 3–9-jugata, usque 5 cm. longa, stipulata, stipulis subulatis usque 4 mm. longis plus minusve persistentibus ; petiolus usque 7 mm. longus, adpresse albo-hirsutus ; rhachis usque 3·5 cm. longa, adpresse albo-hirsuta ; foliola breviter petiolulata, elliptica, oblongo-elliptica vel obovato-elliptica, 6–12 mm. longa, 3–5 mm. lata, apice rotundata, truncata, vel leviter emarginata, minute apiculata, basi plus minusve rotundata utrinque adpresse albo-hirsuta praecipue pagina inferiore. *Racemi* numerosi, axillares, multiflori, usque 6 cm. longi ; pedunculus et rhachis densiuscule albo-hirsuta ; bracteae lanceolato-subulatae, extra albo-hirsutae, circiter 3 mm. longae, caducae ; pedicelli circiter 1 mm. longi, hirsuti. *Calyx* 4·5 mm. longus ; tubus brevissimus, vix 1 mm. longus, extra dense hirsutus ; lobi subulati, usque 3·5 mm. longi, parce albo-hirsuti, apice glabri. *Vexillum* rotundato-triangulare, circiter 5 mm. longum et latum, apice rotundatum, basi haud unguiculatum, sed obtuse lobatum, extra superne crispidule hirsutum, intus glabrum ; alae oblique obtriangulares, circiter 5 mm. longae et 2·5 mm. latae, basi in unguem angustatae, glabrae ; carina

superne cymbiformis, apice acuta, inferne in ungues attenuata, utroque latere in calcarem angustum 1·5 mm. longum deflexum producta, circiter 7 mm. longa et 2 mm. lata, superne extra crispidule hirsuta. *Stamina* circiter 5 mm. longa ; antherae 0·8 mm. longae, minute apiculatae. *Ovarium* subfiliforme, circiter 2·5 mm. longum, dense adpresse hirsutum ; stylus filiformis, valde curvatus, circiter 4 mm. longus, glaber ; stigma minutum, capitatum. *Legumen* rectum, patens, subcylindricum, circiter 2 cm. longum et 1·5 mm. diametro, extra densissime adpresse hirsutum, et pilis rigidis erectis parce inspersum. *Semina* circiter 10, matura non visa.

Tanganyika Territory. Mwanza, *Davis* 258. Shinyanga, April 1933, *Bax* 152 (type) : — annual, 1 ft. high ; flowers pink. Common in Huru-huru mbuga and Shinyanga area generally, 23 March 1932, *Staples* 437. Very abundant everywhere, Shinyanga, 1200 m., Febr. 1935, *Burtt* 5147 :—flowers salmon-pink.

Indigofera tenuis *Milne-Redhead*, sp. nov. [Papilionaceae] ; ab *I. wituensi* Bak. f. foliolis supra aequabiliter hirsutis, lobis calycis brevioribus, legumine glabro differt.

Herba annua usque 3 dm. (1 m. fide Wallace) alta, conspicue ramosa. *Rami* patentes, inferiores decumbentes, graciles, teretes vel obscure angulati, parcissime adpresse albo-hirsuti, demum glabrescentes ; internodia 1–3 cm. longa. *Folia* 2–4-jugata, usque 2·5 cm. longa, stipulata, stipulis subulatis usque 4 mm. longis plus minusve persistentibus ; petiolus 1–3 cm. longus, parce adpresse albo-hirsutus ; rhachis usque 1·5 cm. longa, parce adpresse albo-hirsuta ; foliola breviter petiolulata, oblonga vel oblanceolata, usque 14 mm. longa et 4 mm. lata, apice acuta vel rotundata, minute apiculata, basi cuneata, utrinque adpresse albo-hirsuta praecipue pagina inferiore. *Racemi* numerosi, axillares, 1–4-flori, usque 2·5 cm. longi ; pedunculus et rhachis glabra ; bracteae subulatae, extra albo-hirsutae, circiter 2 mm. longae, caducae ; pedicelli 0·5 mm. longi, glabri. *Calyx* circiter 2 mm. longus ; tubus 1 mm. longus, extra parce albo-hirsutus ; lobi subulati, circiter 1 mm. longi, glabri. *Vexillum* rotundato-triangulare, circiter 4 mm. longum et latum, apice rotundatum, basi in ungem brevem latum angustatum, extra superne crispidule hirsutum, intus glabrum ; alae oblique obtriangulares, circiter 4 mm. longae et 2 mm. latae, basi in unguem latum angustatae, glabrae ; carina superne cymbiformis, apice obtusa, inferne in unguem attenuata, utroque latere in calcarem angustum 0·5 mm. longum deflexum producta, circiter 4·5 mm. longa, 1·5 mm. lata, superne extra crispidule hirsuta. *Stamina* circiter 4 mm. longa ; antherae 0·5 mm. longae, minutae apiculatae. *Ovarium* filiforme, circiter 2 mm. longum, parce adpresse hirsutum ; stylus filiformis, valde curvatus, circiter 2 mm. longus, glaber ; stigma minutum capitatum. *Legumen* rectum, ascendens, subcylindricum, circiter 1–1·4 cm. longum et 1·5 mm. diametro, parcissime adpresse albo-hirsutum. *Semina* circiter 10, matura non visa.

KENYA COLONY. Turkana Province: Oropoi Valley, 1000–1200 m., June-July 1930, *Liebenberg* 286.

TANGANYIKA TERRITORY. Mwanza, *Davis* 61, 289. Mwanza, 1100 m., 23 Feb. 1933, *Wallace* 599 : — woody herb, 4 ft. high. Shinyanga, in pathways on fairly dry ground, Febr. 1933, *Bax* 151 (type) : — annual, 9 inches to 1 ft. high ; flowers deep pink. Shinyanga, in short-grassed hard-pan soils, 1200 m., Febr. 1935, *Burtt* 5094 : — a pretty red-flowered herb growing commonly everywhere. Shinyanga, very common in *Hyparrhenia* savannah and old cultivation on decayed granite soils, 1140 m., 30 March 1932, *Burtt* 3779a* (Brit. Mus. Herb.) : —flowers brick-red, forming splashes of colour.

In some of the species examined the peduncle and rhachis of the inflorescence have a few adpressed white hairs. The subulate calyx segments are often longer than the measurement given for the type specimen. The specimen from Kenya Colony (*Liebenberg* 286) is rather more hairy than the Tanganyika specimens, but agrees with them in all other respects.

Vigna macrorrhyncha (*Harms*) *Milne-Redhead*, comb. nov. [Papilionaceae]. *Phaseolus Schimperi* Taub. in Engl. Hochgebirgsfl. Trop. Afr. 267 (1892) ; Engl. Pflanzenw. Ost-Afr. C. 223 (1895) ; Harms in Engl. Pflanzenw. Afr., **3**, i, 695 (1915) ; Bak. f. Leg. Trop, Afr. 390 (1929), non *Vigna Schimperi* Bak. *Phaseolus macrorrhynchus* Harms in Engl. Bot. Jahrb. **28**, 409 (1900) and in Engl., Pflanzenw. Afr. **3**, I, 695 (1915) ; Bak. f. Leg. Trop. Afr. 390 (1929).

NIGERIA. Naraguta, *Lely* 552.

ABYSSINIA. Mt. Edda-Girgis near Acksum [Aksum ?], 2300 m., *Schimper* s.n. (type of *P. Schimperi* Taub.)

ANGLO-EGYPTIAN SUDAN. Darfur Province: Jebel Marra, *Mrs. Macintosh* 96.

UGANDA. Sanga Rest Camp, Ankole, 1300 m., *Eggeling* 614 (Forestry Dept. 989). Mile 13, Kampala–Entebbe Road, *Eggeling* 279 (F.D. 560). Serere, *Chandler* 1015. Siroko Valley, Mt. Elgon, 1200–1500 m., *Snowden* 1049.

KENYA COLONY. Kipkarren district, *Brodhurst-Hill* 223. Utembe, 1350 m., *Napier* 2947 (Coryndon Museum 5300). Nyali Estate, Mombasa, *Napier* 3363 (C. M. 6308).

TANGANYIKA TERRITORY. Bukoba District: Kabirizi, 1200 m., *Haarer* 2260. Shinyanga, *Bax* 165, 166. Morogoro District, 330 m., and 480 m., *Wallace* 418, 418a. S. Uluguru, Mbakana, 600 m. *Goetze* 345 (type). Iringa Province, Msima Stock Farm, *Emson* 244.

NORTHERN RHODESIA. Mumbwa, *Mrs. Macaulay* 398, 1161.

*This is a mixed gathering, *Burtt* 3779 being a distinct species.

I am indebted to Dr. H. G. Schweickerdt, who, whilst working at the Berlin Herbarium, carefully compared the types of *Phaseolus Schimperi* Taub. and *P. macrorrhynchus* Harms, and reported that he believed the two species to be conspecific, in spite of considerable variation in the size of the flowers, a character which appears to depend at least partly on the vigour of the plant. The material at Kew shows also a large variation in the shape of the leaflets. An examination of the flowers of *Phaseolus Schimperi* makes me think that the species is better placed in *Vigna*, in spite of its somewhat twisted keel. The habit, foliage and fruit agree very closely with certain species of *Vigna*, and according to the key to that genus in E. G. Baker's " Leguminosae of Tropical Africa," the species falls into the section *Microdontae*, near to *Vigna pseudolablab* Harms.

Salix subserrata *Willd.* Sp. Pl. **4**, 671 (1806) [Salicaceae] ; Pers. Syn. **2**, 600 (1807) ; Poir. Encycl. Méth. suppl. **5**, 58 (1817) ; Hiern in Cat. Afr. Pl. Welw. **1**, 1030 (1900). *S. safsaf baelledi* Forsk. Fl. Ægypt-Arab. p. lxxvi (1775), sine descr. *S. Safsaf* Forsk. ex Trautv. Salic. 6, t.2 (1836) ; Anderss. Monogr. Salic. 10, t. 1 (1865) ; Solms in Schweinf. Beitr. Fl. Aethiop. 187 (1867) ; Anderss. in DC. Prodr. **16**, ii, 196 (1868) ; Boiss. Fl. Orient. **4**, 1183 (1879) ; Engl. Hochgebirgsfl. Trop. Afr. 189 (1892) ; Post Fl. Syr. Palest. Sin. 742 (1896) ; ed. 2, **2**, 529 (1933) ; Muschl. Man. Fl. Egypt, 242 (1912) ; Skan in Prain Fl. Trop. Afr. **6**, ii, 318 (1917) ; Broun & Massey Fl. Sudan 209 (1929) ; Hutch. in Kew Bull. 1931, 165 (1931), et 1934, 287 (1934). *S. octandra* Sieb. ex A. Rich. Tent. Fl. Abyss. **2**, 276 (1851).

As published by Forsskål in 1775, the name *S. safsaf baelledi* has no standing, as it appears in a list without a description. The epithet *Safsaf* was not published with a description until Trautvetter took it up in 1836. In the mean time (1806) Willdenow had published a description, also based on Forsskål's specimen, and had given the name *S. subserrata* to the species, thus antedating *S. Safsaf* Forsk. ex Trautv. by thirty years. Hiern in his account of Welwitsch's Angolan plants, rightly adopted Willdenow's name, but many botanists still retain the invalid name *S. Safsaf* Forsk. E.M.-R.

Loranthus (**Constrictiflori**) **Gomesii** *E. A. Bruce*, sp. nov. [Loranthaceae] ; affinis *L. ogowensi* Engl., sed foliis lineari-lanceolatis vel falcatis differt.

Rami griseo-brunnei, subtiliter lenticellati et striati, glabri, 4–6 mm. diametro, internodiis 2·5–6·5 cm. longis. *Folia* opposita vel subopposita, falcata vel lineari-lanceolata, apice rotundata vel subacuta, basi cuneata, 6–15 cm. longa, 1–2·5 cm. lata, coriacea, glabra ; nervi laterales utrinsecus 3–5, costae mediae subparalleli ; petioli 0·6–1 cm. longi, glabri. *Umbellae* axillares, fasciculatae, 3–4-florae ; pedunculus 3–4 mm. longus, glaber ; pedicelli 1–2 mm. longi ; bracteae ovato-cupulares, acutae vel subacutae, margine dorsali minute ciliolato 4 mm. longo ventrali 2·5 mm. longo. *Calyx*

(receptaculo incluso) campanulatus, circiter 5 mm. longus, glaber, subtruncatus, margine irregulariter fisso. *Alabastra* apice ellipsoidea, depresso-truncata, 5-cornuta. *Corolla* rubra, glabra, tubo circiter 3·5 cm. longo unilateraliter fisso, ampulla basali ellipsoidea circiter 6 mm. longa, lobis reflexis spathulatis circiter 6 mm. longis apice crassis in appendicem dorsalem 1·5 mm. longam productis. *Filamenta* fere 3 mm. infra basin corollae loborum inserta, involuta, circiter 8 mm. longa, dente ventrali 0·75 mm. longo ; antherae anguste oblongae, 2–2·5 mm. longae. *Stylus* superne metuliformis, parte incrassata circiter 6 mm. longa, collo 2 mm. longo ; stigma ellipsoideum, 0·9 mm. longum.

Portuguese East Africa. Near Inhambane, Oct. 1935, *Gomes e Sousa* 1664 (type) :—a parasite on *Brachystegia* ; flowers red.

Loranthus meridianus *E. A. Bruce*, comb. nov. [Loranthaceae]. *Tapinostemma meridianum* Danser in Notizbl. Bot. Gart. Berlin, **11**, 216 (1931). *Loranthus Ngurukizi* E. A. Bruce in Kew Bull. 1933, 470 (1933).

Fagaropsis Hildebrandtii (*Engl.*) *Milne-Redhead*, comb. nov. [Rutaceae]. *Clausena ? Hildebrandtii* Engl. Pflanzenw. Ost-Afr. C, 229 (1895). *C. Hildebrandtii* Engl. in Engl. Pflanzenw. Afr. **3**, i, 758 (1915) and in Engl. Pflanzenfam. ed. 2, **19A**, 322 (1931). *Clausenopsis Hildebrandtii* Milne-Redhead in Kew Bull. 1935, 278 (1935).

I am grateful to Mr. A. W. Exell of the British Museum (Natural History) for calling my attention to the generic name *Fagaropsis* Mildbr. ex Siebenlist, which antedates *Clausenopsis* Engl., and renders the above combination necessary.

Turraea Fischeri *Guerke* in Engl. Bot. Jahrb. **14**, 308 (1819) [Meliaceae], and in Engl. Pflanzenw. Ost-Afr. C, 231 (1895) ; Harms in Engl. & Prantl, Nat. Pflanzenfam **3**, 4, 285 (1896) ; Bak. f. in Journ. Bot. **41**, 11 (1903) ; Engl. Pflanzenw. Afr. **3**, i, 815 (1915).

Tanganyika Territory. Dodoma District. Mpwapwa–Kilosa boundary at the Mafutu River, common in deciduous thicketed valley of seasonal river-bed, especially on rocky parts, c. 1000 m., 15 Aug. 1933, *Burtt* 4761 : — shrub 3·6 m. high, with masses of cream-coloured flowers. Mpwapwa, Gombo River, frequent at margin of riverine vegetation in semi-desert valley, 750 m., 25 Aug. 1933, *Burtt* 4769 :—shrub to 3·6 m. high with masses of yellowish green fruits. Mtambi, east of Mpwapwa, in deciduous scrub, 13 July 1933, *Hornby* 558 : — small tree, 3·6 m. high. Kondoa District. Sambala, on rocks, 1530 m., 12 April 1929, *Burtt* 2126 : — a shrub to 3 m. high. Manyoni District. Among granite rocks, associated with *Commiphora kyimbilensis* and *Brachystegia filiformis* on kopje at Manyoni, 1200 m., 28 July 1931, *Burtt* 3336 : — small tree with open habit ; flowers very numerous, creamy white, pollinated by green

and yellow honey birds. Manyoni Kopje, locally common, between rocks among granite boulders, 1200 m., 22 July 1933, *Burtt* 4970 : — bushy tree 7·5 m. high with great profusion of cream-coloured sweet scented flowers. Shinyanga District. Shinyanga, frequent in thickets on the granite kopjes, 1170 m., 9 June 1931, *Burtt* 3300 : — shrub with leaves fallen ; flowers white. In primaeval thickets on granite hills with *Commiphora Eminii*, etc., Beda Road, Shinyanga, 1170 m., May 1935, *Burtt* 5128 : — tree, 6 m. high. At foot of granite hills, Shinyanga, 1170 m., 11 Aug. 1935, *Burtt* 5129 : — small tree 4·5 m. high, quite leafless, with masses of cream-coloured flowers. Mwanza District. In *Combretum, Acacia, Albizzia* woodland at Nassa Usega, Aug. 1932. *Rounce* 207 : — a deciduous tree.

The ample material of this species in the Kew Herbarium here cited, mainly collected by Mr. B. D. Burtt, has recently been compared with fragments of the type specimen of *T. Fischeri* Guerke, which Dr. Harms kindly forwarded to the Imperial Forestry Institute, Oxford. Although variable in a number of characters Mr. Dunkley and I are satisfied that the above material represents but one species. The leaves vary from glabrous or glabrescent with a few scattered hairs on the nerves below to velutinous ; the calyx from sparsely to densely pubescent ; the petals from sparsely to rather densely hirsute ; the appendages of the staminal-tube from sub-entire or minutely bifid to deeply bifid with almost subulate segments ; and the outside of the staminal-tube from glabrous to sparsely hirsute.

E.M.-R.

Pachystela subverticillata *E. A. Bruce*, sp. nov. [Sapotaceae] ; affinis *P. Msolo* (Engl.) Engl., sed foliis minoribus subverticillatis differt.

Arbor cortice viridi-albo, ramulis subteretibus glabris apicem versus dense foliatis. *Folia* stipulata et breviter petiolata, stipulis rigidis angustis subulatis persistentibus petiolum superantibus circiter 6 mm. longis, petiolo brevissimo et crasso cinereo-pubescente ; lamina anguste obovata, 6–9 cm. longa, 2·5–4 cm. lata, apice obtusa vel leviter emarginata, basi anguste cuneata, supra glabra, subtus basi et nervis sparse cinereo-pubescens, demum glabrescens, nervis lateralibus utrinsecus 7–9 subtus prominentibus. *Flores* sessiles, infra folia in axillis ramulorum glomerati. *Calycis lobi* imbricati, exterioribus late ovatis 3 mm. longis 2·5 mm. latis, interioribus angustioribus, omnibus intus glabris extra cinereo-pilosis. *Corolla* rubro-albida, tubo urceolato circiter 3 mm. longo faucem versus angustato 1·5 mm. lato, lobis patentibus ovato-lanceolatis 3-nerviis 5 mm. longis 3 mm. latis apice acutis vel subacutis. *Stamina* exserta, tubo corollae adnata, filamentis (parte libera) 5 mm. longis lobos excedentibus, antheris medio affixis 2 mm. longis. *Ovarium* subglobosum, dense pilosum, 2 mm. longum, stylo 1 cm. longo glabro.

Kenya Colony. Utwani forest, Dec. 1934, *Abdullah* (For. Dep.

3344) (type) : —a timber tree with greenish-white bark and reddish-white flowers.

Tacazzea tomentosa *E. A. Bruce*, sp. nov. [Asclepiadaceae] ; ab omnibus speciebus floribus majoribus tomentosis, foliis minoribus differt.

Frutex scandens, caule tereti striato lenticellato juniore ferrugineo-tomentoso. *Folia* petiolata, petiolo 0·5–1·5 cm. longo gracili ferrugineo-tomentoso ; lamina lanceolata vel ovato-lanceolata, 2·5–4·5 cm. longa, 1–2 cm. lata, apice acuta, basi rotundata, discolor, supra leviter puberula, subtus dense albido-tomentosa costa media ferruginea, nervis lateralibus utrinsecus 12–16 approximatis. *Inflorescentia* pedunculata, axillaris, cymosa, divaricata, pedunculo 5 mm. longo, ramis cymae circiter 2·5 cm. longis pubescentibus, bracteis lineari-lanceolatis dorso pilosulis membranaceis mox deciduis. *Flores* flavido-albi vel virides, pedicellati, pedicellis circiter 7 mm. longis. *Calyx* parvus, profunde 5-lobatus, lobis triangularibus 1·5 mm. longis acutis tomentosis. *Corolla* dextrorso-contorta, fere usque ad basin 5-partita, lobis reflexis ovatis vel ovato-lanceolatis 4 mm. longis basi 3 mm. latis apice acutis extra tomentosis intus puberulis. *Coronae lobi* 5, filiformes, 3 mm. longi, puberuli, antheris oppositi. *Antherae* ovato-triangulares, 1·5 mm. longae.

Uganda. Chua District. Agoro, March 1935, *Eggeling* 1704 (For. Dep. 1598) (type) : —a climber over small trees in savannah ; flowers creamy to greenish.

Raphionacme Vignei *E. A. Bruce*, sp. nov. [Asclepiadaceae] ; ab omnibus speciebus africanis inflorescentiis densioribus, foliis latioribus obovatis differt.

Herba perennis, scabrido-puberula, 8–13 cm. alta, basi lignosa, tubere crasso disciformi. *Caules* simplices, erecti, puberuli. *Folia* breviter petiolata, obovata vel oblongo-obovata, apice rotundata minute apiculata, basi cuneata, 4–8 cm. longa, 2–3 cm. lata, supra glaberrima, subtus scabrido-puberula, nervis lateralibus utrinsecus circiter 6 subtus prominentibus. *Inflorescentia* terminalis, congesta, pluricymulosa, cymulis 5–6-floris sessilibus ; pedicelli circiter 1 mm. longi, bracteis parvis lineari-lanceolatis. *Calyx* imbricatus, fere ad basin 5-lobatus, lobis ovatis 1·5 mm. longis acuminatis extra puberulis intus glabris. *Corolla* 5-lobata, lobis ovato-lanceolatis acutis vel subacutis 3·5 mm. longis, tubo breviter campanulato 2 mm. longo. *Coronae lobi* 5, e fauce corollae tubi orti, complanato-filiformes, circiter 5 mm. longi, erecti, simplices. *Antherae* 1·3 mm. longae, ovato-triangulares.

Gold Coast. Wa, in savannah forest, May 1935, *Vigne* 3823 (type) : —a herb 7–13 cm. high, with a fleshy disc-shaped tuber.

Ancylanthus rufescens *E. A. Bruce*, sp. nov. [Rubiaceae] ; affinis

A. fulgido Welw. ex Hiern, sed foliis acuminatis nervis tomentoso-rufescentibus, calyce majore lobis obtusis differt.

Frutex circiter 2·5 m. altus. *Rami* adscendentes, rigidi, teretes, internodiis usque 6 cm. longis ; cortex annotinus dense rufo-tomentosus pilis adpresse adscendentibus, demum plus minusve glabrescens. *Folia* opposita, petiolata, petiolo usque 1 cm. longo dense adpresse rufo-tomentoso ; lamina oblongo-obovata, apice abrupte acuminata, basi late cuneata vel rotundata, 7–9 cm. longa et 3–4 cm. lata, superne pilis paucis adpressis costa media densius induta, inferne nervis utrinsecus circiter 7 prominentibus dense rufo-tomentosis, ceterum glabrescens. *Stipulae* circiter 5 mm. longae, subulato-caudatae, basi truncato-connatae, rufo-tomentosae. *Inflorescentiae* erectae, 1–2-florae, axillares, pedunculatae, pedunculis 5–9 cm. longis. *Calyx* profunde 5-lobatus, lobis erecto-patentibus oblongis vel oblanceolatis apice rotundatis circiter 1 cm. longis 4 mm. latis utrinque pilis fuscis sparse indutis, extra costa media prominente densius hirsuta, tubo 3 mm. longo dense rufo-tomentoso. *Corolla* immatura tantum visa, tubo cylindrico amplo 7 mm. longo fauce 5 mm. lato extra rufo-tomentoso intus prope medium pilis reflexis annulato ceterum glabro, lobis lanceolatis 5 mm. longis refractis apice caudato-acuminatis extra rufo-tomentosis intus glabris. *Stamina* 5, ad faucem corollae inserta ; antherae lanceolatae, leviter exsertae, filamentis aequilongae. *Stylus* gracilis, glaber ; stigma magnum, subcoroniforme. *Ovarium* hemisphaericum, 5-loculare, ovulo solitario pendulo. *Fructus* non visus.

Tanganyika Territory. Morogoro District. Uluguru Mts., Tanana, in the forest, 1390 m., 3 Febr. 1935, *Miss E. M. Bruce* 765 (type) : —shrub 2·75 m. with green flowers, red-brown calyx and handsome red-brown veins on lower leaf-surface.

Canthium dyscriton *Bullock*, sp. nov. [Rubiaceae] ; habitu *C. Greenwayi* Bullock, sed stipulis triangularibus, foliis utrinque rotundatis vel obtusis distincta ; inter species seriei floribus fasciculatis gaudentis* floribus minoribus, stigmate levissime 4-lobo haud bifido facile distinguenda.

Frutex parvus, compactus, ramosus, dense foliatus ; ramuli pilis persistentibus satis dense ferrugineo-puberuli, subteretes, longitudinaliter striati. *Folia* breviter petiolata, petiolis 1–1·5 mm. longis puberulis ; lamina plus minusve coriacea, elliptica vel oblonga, utrinque obtusa vel rotundata, 1–2 cm. longa, 0·5–1·5 cm. lata, supra glabra, nitida, subtus glabra sed pilis paucis ex axillis nervorum (utrinsecus 3) praedita ; stipulae triangulares, acutae, subglabrae, marginibus scariosae, 3–4 mm. longae. *Flores* minuti, in fasciculas paucifloras ex axillis foliorum dispositi ; pedicelli graciles, glabri, 6 mm. longi. *Calyx* (ovario minutissimo incluso) glaber, dentibus 5 late patentibus triangularibus acutis praeditus. *Corolla* vix 2 mm

*Bullock in Kew Bull. 1932, 353 et seq.

longa, calyce duplo longiora, extra glabra, intus pilis villosis fauce annulata, infra medium in lobos 5 divisa, lobis erectis ovato-oblongis acutis. *Antherae* subtriangulares, apice subacutae, basi truncatae; filamenta satis crassa, brevissima. *Stylus* glaber, basi satis crassus, apicem versus leviter attenuatus, 1 mm. longus, stigmate capitato subgloboso brevissime 4-lobo dense papilloso-puberulo. *Drupae* non visae.

Kenya Colony. Nyatchi district, Teita Hills, 750-1050 m., *H. M. Gardner* (For. Dep. 3000): — a small shrub, often in compact bushes on wind-swept rocks.

This plant does not easily fit into any of the four series established by the writer* for the East African species of *Canthium*. The flowers and leaves recall those of *C. Greenwayi* Bullock, but the stipules at once place it in the "Fasciculate Series", where no close affinity can be found. On the whole, it is best placed next to *C. Greenwayi*, in the "Anomalous Series", where it may be regarded as a connecting species between the Anomalous and Fasciculate Series.

Ixora ulugurensis *Brem.*, sp. nov. [Rubiaceae]; a speciebus aliis, quibus corymbi longiuscule pedunculati, pedunculi foliis satis magnis suffulti, flores sessiles vel subsessiles in triades dispositi et bracteolis vix conspicuis muniti proprii sunt, aut foliis minoribus (ab *I. Scheffleri* K. Schum. & K. Krause) aut corolla longiore (ab *I. Albersii* K. Schum. et ab *I. latituba* K. Krause) sat diversa.

Arbor ramis foliisque glabris, 6 m. alta. *Rami* graciles, mox cortice griseo-brunneo opaco vestiti. *Folia* petiolata; petiolus 4–8 mm. longus, canaliculatus; lamina tenuiter subcoriacea, oblanceolata, 6–10 cm. longa, 1·8–3·2 cm. lata, apice subacuminata mucronata, basi acuta, in foliis basi pedunculi insertis tamen rotundata, utrinque opaca, siccitate brunnea, costa canaliculata, nervis utroque latere costae 11–13 tenuioribus subtus prominulis, venulis dense reticulatis etiam subtus prominulis. *Stipulae* triangulares, in aristam vagina paulo longiorem exeuntes, axilla dense villosae. *Inflorescentia* glabra ramum ordinarium terminans, longiuscule pedunculata, bis trichotoma, floribus sessilibus in triades 9 dispositis. *Pedunculus* basi foliis brevius petiolatis circiter 5 cm. longis basi rotundatis munitus, 1·2–2·5 cm. longus. *Ramuli inferiores* bracteis subulatis curvatis 3·5 mm. longis suffulti, sicut axis inflorescentiae circiter 1·5 cm. longi; bracteae superiores minores; internodia omnia articulata. *Flores* omnes ebracteolati vel interdum bracteolis vix conspicuis ad medium ovarii insertis muniti, basi articulata. *Calyx* glaber, 1 mm. altus, lobis aequilateraliter triangularibus tubo subaequilongis. *Corolla* extra glabra, tubo 21·5 mm. longo intus glabro, lobis 6–6·5 mm. longis 2·2 mm. latis subacutis. *Filamenta* 1·5 longa; antherae 4 mm. longae, brevissime apiculatae, basi sagittatae in appendices steriles 1 mm. longas exeuntes. *Ovarium* glabrum, turbinatum, 1·4 mm. altum. *Stylus* glaber, parte exserta stigmatibus comprehensis 3 mm. longa.

*Kew Bull. 1932, 353 et seq.

Tanganyika Territory. Morogoro District. Uluguru Mts., Tanana, Matomba Point, occasional, 1700–1800 m., Feb. 1935, *Miss E. M. Bruce* 804 (type) :—flowers red and white, sweet scented ; native name *sabibu*.

The corolla lobes are doubtless white, the ovary and calyx and perhaps part of the corolla tube red. Of the species mentioned above *I. latituba* comes probably nearest to our new one : in their vegetative parts the two species are almost indistinguishable. The corolla tube of *I. latituba* however is stouter and shorter and the lobes are longer.

Lasianthus cereiflorus *E. A. Bruce*, sp. nov. [Rubiaceae] ; affinis *L. glomerulifloro* K. Schum, sed foliis anguste cuneatis infra pallidis, petiolis longioribus, floribus majoribus differt.

Frutex 2·5-5 m. altus. *Ramuli* subteretes vel leviter tetragoni, pallidi, internodiis 4–5 cm. longis glabris. *Folia* opposita, petiolata, petiolo 1–2 cm. longo ; lamina oblongo vel elongato-obovata, 10–22 cm. longa, 3–7 cm. lata, apice subacuta vel breviter obtuse acuminata, basi anguste cuneata (nonnunquam inaequaliter), utrinque glabra, subtus pallidiora, nervis lateralibus utrinsecus 9–11 arcuatis. *Stipulae* parvae, triangulari-ovatae, apice obtusae, circiter 3 mm. longae. *Flores* plurimi, axillares, sessiles, dense glomerati. *Calyx* 3-lobatus, glabrescens vel pauce puberulus, lobis subquadratis emarginatis 1 mm. longis 2 mm. latis, tubo 3 mm. longo. *Corolla* lilacina, cerea, tubo leviter curvato 1·2–1·4 cm. longo fauce 3 mm. lato extra glabrescente intus hirsuto, lobis 6 lineari-lanceolatis 4 mm. longis apice acutis extra glabrescentibus intus leviter hirsutis. *Stamina* 6, fauce inserta, leviter exserta ; antherae oblongae, 2 mm. longae, filamentis brevissimis. *Ovarium* depresse subglobosum, 6-loculare, stylo gracili 1·2 cm. longo, stigmate 6-lobulato.

Tanganyika Territory. Morogoro District. In forest, Uluguru Mts., 1600 m., 17 Nov. 1934, *Miss E. M. Bruce* 140 (type) :—2·5 m. shrub with striking mauve waxy flowers. Without locality, 1500 m., *Wallace* 438. Without locality, 1700 m., *Brandenburg* 277. N. W. Uluguru Mts., 1380 m., *Schlieben* 2757 : — shrub 5 m. high.

Lasianthus pedunculatus *E. A. Bruce*, sp. nov. [Rubiaceae] ; affinis *L. macrocalyci* K. Schum., sed foliis minoribus, pedunculis longioribus gracilibus differt.

Frutex 2–3 m. altus. *Ramuli* subteretes, striati, glabri, lenticellati, internodiis 3–4·5 cm. longis. *Folia* opposita, petiolata, petiolo gracili 5–10 mm. longo ; lamina anguste ovata vel elliptico-lanceolata, 8–13 cm. longa, 4–5 cm. lata, apice acuta, subacuta vel leviter acuminata, basi cuneata, utrinque glabra, nervis lateralibus utrinsecus circiter 10 arcuatis subtus prominentibus. *Stipulae* parvae, triangulares, subacutae, circiter 1 mm. longae. *Inflorescentiae* pedunculatae, pedunculis 2 axillaribus 2–3 cm. longis, floribus spicatis

pendulis, apice circiter 2–6 conglomeratis. *Calyx* 2-lobatus, lobis ovato-orbiculatis glabris circiter 4 mm. longis et latis apice rotundatis, tubo turbinato 2 mm. longo. *Corolla* lilacina, glabrescens, tubo cylindrico 9–12 mm. longo 3 mm. lato intus hirsuto, lobis 5 ovato-lanceolatis 2–3 mm. longis apice acutis hirsutis. *Stamina* 5, fauce inserta ; antherae oblongae, 2 mm. longae. *Ovarium* turbinatum, 5-loculare, stylo circiter 5 mm. longo apice 5-lobato.

Tanganyika Territory. Morogoro District. Uluguru Mts., Bondwa, in forest, 2000–2300 m., 23 April 1935, *Miss E. M. Bruce* 1096 (type) :—a shrub 2–3 m. high with mauve pendulous flowers.

Lasianthus Wallacei *E. A. Bruce*, sp. nov. [Rubiaceae] ; affinis *L. microcalyci* K. Schum., sed floribus paucis majoribus, calyce majore, fructu juniore hirsuto differt.

Frutex vel *arbor* 3–18 m. alta. *Ramuli* subteretes, apicem versus complanati, nigrescentes, sparse lenticellati, glabri, internodiis 4–7 cm. longis. *Folia* opposita, coriacea, petiolata, petiolo 5–10 mm. longo ; lamina oblonga vel anguste obovata, 13–17 cm. longa, 4–7 cm. lata, apice obtusa, subacuta vel abrupte et breviter obtuse acuminata, basi cuneata, supra glabra, subtus nervis apicem versus sparse pilosa, nervis lateralibus utrinsecus 12–14 arcuatis subtus prominentibus. *Stipulae* triangulares, circiter 4 mm. longae, coriaceae, margine hirsutae. *Flores* 1–3, axillares, subsessiles. *Calyx* (in fructu immaturo) fere usque ad basin 3–4-lobatus, lobis ovato-ellipticis apice obtusis circiter 10 mm. longis 7 mm. latis, extra pilis ferrugineis sparse apice densius indutis intus glabris, tubo ovario adhaerente 6–8 mm. longo ferrugineo-hirsuto. *Corolla* non visa, fide lectorum alba usque profunde violacea. *Ovarium* 3–6-loculare.

Tanganyika Territory. Morogoro District. Without locality, in forest, 1700 m., *Wallace* 491 (type) :—a timber tree 18 m. high with deep violet petals and intense blue fruits. Uluguru Mts., 1650 m., *Schlieben* 2838 :—small tree 6–8 m. high, flowers waxy white. Uluguru Mts., Lukwangule, 1850 m., 5 April 1935, *Miss E. M. Bruce* 978 :—shrub 3–4·5 m. high with large mauve blossoms and thick leaves ; native name *mgemamondo* (Kiswahili).

Pavetta Bruceana *Brem.*, sp. nov. [Rubiaceae] ; ad sectionem *Dolichosiphon*, seriem *Dentatae* pertinens et *P. Elliottii* K. Schum. & K. Krause et *P. olivaceo-nigrae* K. Schum. approximans, *P. Elliottii* foliis obovatis majoribus subtus nervis solis tomentosis, floribus multo minoribus, a *P. olivaceo-nigra* ramis floriferis viridibus, stipulis longiuscule vaginatis haud aristatis, calyce brevius dentato sat diversa.

Frutex 1·2–1·8 m. altus. *Rami novelli* dense et molliter pubescentes, vetustiores cortice griseo opaco vestiti. *Folia* breviter petiolata ; petiolus dense pubescens, supra concavus, 5–8 mm. longus ; lamina herbacea, plerumque obovata, 6·5–13 cm. longa,

2–4·7 cm. lata, apicem versus plerumque leviter contracta vel interdum caudato-acuminata, mucronata, basi acuta vel cuneata, utrinque opaca et pubescens, siccitate nigrescens, nervis utroque latere costae 8–9 subtus prominulis et sicut costa nodulique tomentosis. *Stipulae* longiuscule vaginatae, 1·5 cm. longae, scariosae, apice cuspidatae, axilla sericeo-villosae. *Rami floriferi* axillares, oppositi, virides, dense pubescentes, foliis plus quam dimidio breviores, jugo unico vel duobus jugis foliorum 4 cm. haud superantium coronati. *Inflorescentia* contracta, hemisphaerica, floribus 20–30, dense pubescens. *Calyx* sparse pilosus, tubo 1 mm. longo, dentibus 3·5 mm. longis. *Corollae tubus* 11 mm. longus, extra glaber, intus densius pilosus, lobis 6 mm. longis. *Ovarium* subtomentosum, globosum, 1·3 mm. altum. *Stylus* 2·8–3·0 cm. longus.

Tanganyika Territory. Morogoro District. Uluguru Mts., Lukwangule, occasional in forest girdling the summit, 2100–2400 m., 30 Jan. 1935, *Miss E. M. Bruce* 704 (type) : —shrub 1–2 m. high ; flowers white.

The green flowering shoots are an abnormal feature in this section, and if I had not found them occasionally in *P. Elliottii* also, I would probably have made a new section for this plant. Its affinity with other species of the section, especially with the members of the series *Dentatae*, however, is so unmistakable, that the creation of a new section appears unnecessary.

Pavetta constipulata *Brem.*, sp. nov. [Rubiaceae] ; *P. Galpini* Brem. proxima, habitu tamen fruticoso, stipulis in spatham obliquam apice biaristatam cohaerentibus, calycis lobis angustissime triangularibus faciliter recognoscenda.

Frutex 1·8–2·4 m. altus, ramis foliisque glabrescentibus. *Rami* foliis nudati cortice flavido-brunneo nitido vestiti. *Folia* petiolata ; petiolus supra concavus, usque ad 1 cm. longus, a lamina haud distincte sejunctus ; lamina herbacea oblanceolata, 12–18 cm. longa, 4–5·5 cm. lata, apicem acutissimum versus caudato-acuminata, basi cuneata et sensim in petiolum decurrens, primum subtus scabridula, mox glabrescens, utrinque nitidula vel subopaca, siccitate brunnescens, foliorum novellorum tamen nigrescens, domatiis parvis fauce pilosis paucis, nodulis orbicularibus parvis numerosis, nervis utroque latere costae 10–11 supra canaliculatis subtus prominulis. *Stipulae* in spatham obliquam circiter 1 cm. longam apice aristis duabis coranatum cohaerentes, axilla sericeo-villosae. *Rami floriferi* basi abrupte recurvati, horizontaliter patentes vel subpenduli, 6–12·5 cm. longi, internodio unico formati, interdum internodio longo internodio brevissimo sub stipulis abscondito secuto, jugo unico vel interdum jugis duobus foliorum plerumque 4·5–7 cm. longorum stipulis normaliter inter se separantibus munitorum coronati. *Inflorescentia* breviter pubescens, laxe corymbosa, axi efoliata et ramulis 1·5–2 cm. longis, floribus circiter 45. *Ovarium calyxque* breviter pubescentes. *Calyx* tubo 0·8 mm. longo lobis

angustissime triangularibus 3·7 mm. longis basi 1·2 mm. latis instructus. *Corolla* extra glabra, tubo 16 mm. longo 2 mm. diametro intus piloso, lobis 6 mm. longis 2·5 mm. latis apice viridi-mucronatis. *Ovarium* ovoideum, 1·5 mm. altum. *Stylus* 3·6 cm. longus.

Tanganyika Territory. Morogoro District. Uluguru Mts., Morogoro, Morningside, occasional in forest, 1350 m., 28 Nov. 1934, *Miss E. M. Bruce* 228 (type) :—shrub 2 m. high; flowers white; native name *mtambwala*. Without locality, 1350 m., 23 Nov. 1932, *Wallace* 478 :—shrub 2·5 m. high; corolla, in bud, cream with green tips, native name ***lusigisi*** (Kiswahili).

The relationship between this species and *P. Galpini* cannot be doubted. For its inclusion in the section *Chloropus*,* of which *P. Galpini* was so far the only representative, the definition of this section will have to be changed somewhat. Instead of " calyx crenatus " one should read " calyx crenatus vel lobatus " and instead of " inflorescentiae superiores axillares " " inflorescentiae superiores interdum axillares ".

Pavetta filistipulata *Brem.*, sp. nov. [Rubiaceae]; ad sectionem *Trichosphaeram* pertinens, ab speciebus aliis huius sectionis (*P. rufipila* Brem., *P. sansibarica* K. Schum. et *P. trichosphaera* Brem.) stipulis in aristam plus quam 1 cm. longam exeuntibus et calycis lobis plus quam 6 mm. longis faciliter distinguenda, indumento griseo, inflorescentia corymbosa et corolla extra pilosa *P. sansibaricae* et *P. trichosphaerae* approximans.

Frutex 1·8 m. altus, ramis novellis petiolisque indumento griseo vestitis. *Rami vetustiores* cortice albido opaco obtecti. *Folia* petiolata; petiolus 1–1·5 cm. longus; lamina herbacea, oblanceolata vel anguste obovata, 9–16 cm. longa, 3–5·5 cm. lata, apice acuminata, basi acuta vel cuneata, utrinque opaca et pilis sparsis vestita, siccitate brunnescens, nervis utroque latere costae 7–9 subtus prominulis et sicut costa indumento griseo vestitis, nodulis paucis praesertim ad costam adjicientibus haud parvis. *Stipulae* vagina late triangulari vel subtruncata circiter 3·5 mm. longa et arista circiter 12 mm. longa compositae. *Rami floriferi* internodio unico 12–14 cm. longo interdum internodio altero 0·5–1·5 cm. longo secuto formati, jugo unico vel interdum duobus jugis foliorum magnitudine paulo redactorum post anthesin persistentium coronati. *Inflorescentia* pubescens, corymbosa, ramulis 1·5–2 cm. longis, floribus circiter 45. *Calycis* lobi 6·5 mm. longi. *Corolla* extra plus minusve dense pilosa, tubo intus glabro, dimensionibus ob florum immaturitatem haud certe determinandis. *Ovarium* indumento griseo denso vestitum. *Drupa* globosa, densius pubescens, circiter 7 mm. diametro, calyce coronata.

Tanganyika Territory. Morogoro District. Uluguru Mts., Morogoro, Morningside, occasional in forest, 1500 m., 20 April 1935, *Miss*

*Fedde, Rep. Sp. Nov. **37**. 28 (1934).

E. M. Bruce 1120 (type):—shrub 2 m. high, in fruit. Without locality. in forest, 1350 m., 21 Nov. 1932, *Wallace* 472 : —shrub 2 m. high, in bud ; native name *vutavuta* (Kiswahili).

Pavetta sectio 16a **Gerontopus** *Brem.*, sect. nov.

Frutex sparse hirtellus. *Folia* opposita, breviter petiolata, domatiis nullis, nodulis sparsis. *Stipulae* axilla sericeo-villosae. *Rami floriferi* pedunculiformes, sub anthesi cortice secundario vestiti. *Inflorescentia* corymbosa. *Calycis lobi* anguste triangulares. *Corollae tubus* intus sparse pilosus. *Ovula* solitaria.—Typus *P. sparsipila* Brem., sp. nov.

Hab. Africam orientalem tropicalem.

Pavetta sparsipila *Brem.*, sp. nov. [Rubiaceae] ; typus sectionis novae *Gerontopodis*.

Frutex sparse hirtellus, 1·8 m. altus. *Rami* graciles, mox cortice griseo-brunneo opaco desquamante vestiti. *Folia* breviter petiolata ; petiolus circiter 5–8 mm. longus, a lamina haud distincte sejunctus, supra concavus ; lamina herbacea, obovata, 7–11 cm. longa, 2·8–4·4 cm. lata, apice caudato-acuminata, mucronulata, basi cuneata et sensim in petiolum exiens, supra nitidula, subtus opaca, utrinque sed praesertim facie inferiore costae et nervorum pilis sparsis hirtella, siccitate saturate olivacea, nervis utroque latere costae 7–10 utrinque prominulis. *Stipulae* 6 mm. longae, costa viridi, utroque latere costae hyalinae, in aristam 1·5 mm. longam exeuntes. *Rami floriferi* 4–9 cm. longi, plerumque internodio unico formati, foliis 4 cm. longis ante anthesin deciduis coronati. *Inflorescentia* dense pubescens, haud laxe corymbosa, ramulis 1 cm. vix superantibus, floribus circiter 75. *Ovarium calyxque* dense pubescentes. *Calycis tubus* 1 mm. altus, lobis anguste triangularibus 6 mm. longis basi 1 mm. latis. *Corollae tubus* 14 mm. longus, 1 mm. diametro, lobis oblongis 6 mm. longis 2 mm. latis. *Ovarium* turbinatum, 1 mm. altum. *Stylus* 38 mm. longus.

Tanganyika Territory. Morogoro District. Uluguru Mts. Bunduki, quite frequent in forest, 1200 m., 8 Jan. 1935, *Miss E. M. Bruce* 437 (type) : —shrub, 2 m. high ; flowers white ; native name *mlengolengo*.

The new section differs from the section *Crinita*, which it resembles in the character of the flowering shoot, in the structure of the calyx and in the distribution of the nodules ; the latter are scattered over the whole surface of the leaf, as in *Monanthus* and *Brachypus*. From these two sections it differs in the length of the flowering shoots, from *Monanthus* moreover in the many-flowered inflorescence and from *Brachypus* in the long calyx lobes.

Tarenna quadrangularis *Brem.*, sp. nov. [Rubiaceae]; *T. congensi* Hiern proxima, sed ramis acute quadrangularibus, stylo griseo-pubescente, tubo corollae longiore, folii apice caudatis sat diversa.

Frutex 1·8 m. altus, ramis foliisque glabris. *Rami novelli* nitiduli, quadrangulares et anguste alati. *Folia* longiuscule petiolata; petiolus gracilis, 1–2 cm longus, canaliculatus; lamina chartacea, oblanceolata, 10–12 cm. longa, 3–4·6 cm. lata, apice in caudam linearem obtusam 1·5–2 cm. longam exiens, basi acuta vel cuneata, utrinque glaberrima et nitudula, domatiis solis in axillis et ramificationibus nervorum dispositis ore pilosis, siccitate brunnescens, costa canaliculata, nervis utroque latere costae 7–8 subtus prominentibus. *Stipulae* late ovatae, breviter acuminatae vel cuspidatae, intus dense pilosae. *Inflorescentiae* glabrae, ramulos graciles internodio circiter 8 cm. longo formatos foliis magnitudine paulo redactis coronatos terminantes, pedunculo circiter 3·5 cm. longo internodio praecedenti persimili munitae, ramulis inferioribus circiter 2·5 cm. longis foliis duobus suffultis altero praecedentibus persimili altero multo minore 1–2 cm. longo, floribus 15 in triades 5 dispositis, pedicellis 8–10 mm. longis. *Pedicelli* florum triadis lateralium medio bracteolis 0·6 mm. longis muniti. *Calyx* glaber, tubo 0·6 mm. longo, lobis late quandrangularibus breviter acuminatis eodem sensu ac corolla contortis tubo aequilongis. *Corolla* tubo 6 mm. longo extra glabro intus pubescente, lobis acuminatis 7 mm. longis 3 mm. latis instructa. *Filamenta* 1·3 mm., antherae 6·5 mm. longae. *Ovarium* glabrum, ovoideum, 1·5 mm. altum, ovulis in quoque loculo 5. *Stylus* 1·45 cm. longus, parte inclusa griseo-pubescente.

Tanganyika Territory. Morogoro District. Uluguru Mts., Morogoro, Kisaki Road, abundant in forest, 1500 m., 18 Dec. 1934, *Miss E. M. Bruce* 317 (type):—shrub 2 m. high; flowers white; native name *mfiro*.

Besides *Tarenna congensis* this species also shows points of resemblance with *T. pavettoïdes* (Harv.) Sim and with *T. Friesiorum* (K. Krause) Brem., from both of which it differs conspicuously in the size and shape of the leaves.

The presence of domatia not only along the midrib but also along the primary nerves is a feature worth mentioning, as domatia are by no means common in this genus. The contorted aestivation of the calyx lobes, described already by Hiern in one or two other species of this genus, deserves attention, because it is often thought that this kind of aestivation does not occur in the calyx.

Tricalysia anomala *E. A. Bruce*, sp. nov. [Rubiaceae]; affinis *T. Welwitschii* K. Schum., sed floribus paucis majoribus hexameris differt.

Frutex 4–5 m. altus, ramis subteretibus superne complanatis tomentosis, nodis crassis 4–5 cm. distantibus. *Folia* breviter petiolata, petiolo circiter 6 mm. longo tomentoso; lamina oblonga vel ellipticoobovata, apice acuta vel acuminata, acumine acutissimo, basi rotundata vel late cuneata, 13–18 cm. longa, 5–7 cm. lata, supra glabra costa media tomentella, subtus nervis pubescentibus ceterum

glabra, nervis lateralibus utrinsecus 10–12 supra impressis subtus prominentibus. *Stipulae* basi late triangulares vel ovato-triangulares, apice caudatae, usque 1 cm. longae, hirsutae. *Cymae* 2–3-florae, axillares, subsessiles, floribus breviter pedicellatis. *Bracteae* linearilanceolatae, basi connatae, bracteoleis 2 subulatis 4 mm. longis liberis. *Calyx* profunde 6-lobatus, lobis subulatis circiter 6 mm. longis hirsutis, tubo anguste campanulato 6 mm. longo hirsuto basi densiore flavido-hirsuto intus adpresse sericeo. *Corolla* alba, 6-lobata, lobis contortis tubo longioribus lineari-lanceolatis 1·2 cm. longis 3 mm. latis apice acuminatis utrinque griseo-tomentosis, tubo 1 cm. longo basi 1·5 mm. fauce dilatato 3 mm. lato extra leviter pubescente intus glabro fauce hirsuto. *Stamina* fauce inserta, e corolla exserta, filamentis circiter 5 mm. longis glabris, antheris linearibus 7 mm. longis exappendiculatis. *Ovarium* subturbinatum, 2-loculare, 3 mm. longum, ovulis in quoque loculo 6 vel pluribus, stylo gracili pubescente circiter 2 cm. longo apice bifido, lobis 5 mm. longis. *Fructus* subglobosus, hirsutus, circiter 1·5 cm. longus, 1·3 cm. latus, calyce apice persistente.

Tanganyika Territory. Morogoro District. Uluguru Mts., Tanana, in forest, 1380 m., 7 Febr. 1935, *Miss E. M. Bruce* 800 (type) : —a shrub 4–5 m. high.

Linnaeopsis gracilis *E. A. Bruce*, sp. nov. [Gesneriaceae] ; affinis *L. Heckmannianae* Engl., sed foliis majoribus haud cordatis, calycis lobis angustioribus differt.

Herba repens, circiter 15 cm. alta, caulibus pilosis leviter complanatis radicibus adventitiis leviter instructis, nodis 3–4 cm. distantibus. *Folia* alterna, longe petiolata, petiolo gracili complanato leviter piloso 2–3·5 cm. longo ; lamina oblongo-orbiculata vel orbiculata, 3–4 cm. longa, 2·5–3·5 cm. lata, apice rotundata vel truncata, basi truncata vel late cuneata, margine crenata, supra pilis paucis adpressis, subtus nervis pilis adpressis instructa, ceterum minute scabridula, nervis lateralibus utrinque 6–8. *Inflorescentia* axillaris, pedunculata, pedunculo gracili piloso 6–10 cm. longo ; cymae circiter 4–9-florae, floribus longe pedicellatis, pedicellis circiter 1 cm. longis. *Calyx* fere usque basin inaequaliter 5-partitus, lobis anguste oblongis 3–4 mm. longis basi 0·5–1 mm. latis apice obtusis vel truncatis pilis paucis ornatis. *Corolla* alba, oblique campanulata, pubescens, tubo 5 mm. longo basi 3 mm. fauce 8 mm. lato, lobis semiovatis, posticis 2 minoribus, lateralibus 3 mm. longis 3·5 mm. latis apice rotundatis. *Stamina* basi corollae adnata, 2 antica fertilia, filamentis 3 mm. longis, antheris reniformibus 2 mm. longis. *Ovarium* glabrum, oblongo-ovoideum, in stylum 4 mm. longum attenuatum, stigmate integro, disco annulari obliquo antice paullo latiore.

Tanganyika Territory. Morogoro District. Uluguru Mts., Tanana, Matombo Road, in forest, 2000 m., Febr. 1935, *Miss E. M. Bruce* 802 (type) : —a recumbent herb with white flowers.

Anisotes dumosus *Milne-Redhead*, sp. nov. [Acanthaceae]; *A. ukambensi* Lindau affinis, sed bracteis tomentosis, calyce minore lobis brevioribus differt.

Frutex usque 2 m. altus, dense ramosus, praecox. *Rami* rigidi, crassi, teretes, glabri, internodiis brevibus. *Folia* ovato-elliptica vel late lanceolata, apice attenuata, vix acuminata, basi in petiolum usque 5 mm. longum angustata, circiter 13 cm. longa et 4 cm. lata, utrinque glabra; nervi utrinque conspicui, laterales utroque latere costae 6–9. *Inflorescentiae* axillares, brevissimae, usque 3-florae; bracteae ovatae, subacutae, vix 2 mm. longae, extra dense tomentosae, intus glabrae. *Calyx* 5-lobatus, circiter 4 mm. longus, lobis lanceolatis circiter 2·5 mm. longis, extra parce hirsutus et dense minuteque glandulosus, intus plus minusve glaber. *Corolla* bilabiata, luteo-alba, extra densiuscule glandulosa, intus glabra, circiter 4·5 cm. longa; tubus inferne cylindricus, ciricter 4 mm. diametro, basi glaber, postice infra medium in saccos duo externos breves vix 1 mm. latos excavatus, antice infra faucem in saccum externum callum triangularem internum efformantem excavatus; tubus superne leviter compressus, ut labium posticum arcuatus; labium posticum integrum, oblongo-lanceolatum, circiter 3·5 cm. longum, leviter arcuatum, concavum, apice obtusum; labium anticum latissime liguliforme, plus minusve reflexum, circiter 3·5 cm. longum, trilobatum, lobis usque 1 cm. longis, medio apice cuculato lateralibus latiore. Stamina 2, postica, apicem versus tubi affixa; filamenta compressa, circiter 3 cm. longa; antherae dithecae, thecis discretis 4·5 mm. longis, altera paullo altius affixa, inferiore basi calcarata. *Discus* cupularis, 1 mm. altus. *Ovarium* circiter 3 mm. longum, glabrum; stylus circiter 3·8 cm. longus, glaber, apice integer. *Capsula* stipitata, clavata, apice brevissime rostrata, circiter 2·5 cm. longa, glabra. *Semina* 4, plano-compressa, suborbicularia, leviter rugosa.

Tanganyika Territory. Shinyanga District. On poor hard-pan soils and termite mounds, Mahumbu River Flats, Shinyanga, 1200 m., July 1935, *Burtt* 5144 (type) :—a very common coppicing shrub 1–2 m. high; flowers creamy white, appearing when the shrub is leafless. On decayed granite soils and alluvial mud flats of the Mnyonga River, 1100 m., 27 June 1931, *Burtt* 3438:—a very common semi-evergreen shrub up to 2 m. high; foliage dark green, falling in June; flowers in masses on the leafless shrub, creamy white, much sought after by honey birds. On saline alluvial old lake deposits with *Acacia spirocarpa* Hochst. ex A. Rich., *A. Orfota* (Forsk.) Schweinf. and *Cissus quadrangularis* L. at Sakamalewa village in the Wembare region, c. 1050 m., Oct. 1935, *Burtt* 5303 :—a coppicing shrub, 2 m. high, now leafless, but with great quantities of fruits; gregarious and common; seen also at Sekenke gold mine. Chisukuma name *msagara*.

Beautiful material of this species has recently been received from Mr. B. D. Burtt who writes of it as follows :— " It is a feature of the

Nsukuma country, i.e. the vast areas of old lake deposits south of Lake Victoria. This country is overpopulated by the Wasukuma tribe and is now largely open cultivation steppe. This peculiar *Anisotes* is extremely abundant and becomes a feature of the landscape as it is a thick dark-green-leaved coppicing shrub usually about 1·2 m. high. The leaves are shunned by cattle, sheep and goats, and are not shed until well on into the dry season. Almost as soon as the leaves fall the flowers appear, and give the bushes a pale greenish-white appearance because of their masses. The flowers are soon replaced by very numerous green fruits which on ripening turn brown. It is an important constituent of the alluvial thickets, the habitat of the tsetse-fly, *Glossina swynnertoni*, which utilizes those thickets for the pupa sites. When found in thickets, the plant is associated with *Commiphora Schimperi* Engl., *C. sarandensis* B.D. Burtt, *C. Stuhlmannii* Engl., *C. subsessilifolia* Engl., *Grewia bicolor* Juss., *Grewia praecox* K. Schum., *Combretum parvifolium* Dinter, *Albizzia Harveyi* Fourn. and sometimes *Acacia drepanolobium* Harms."

Justicia salvioïdes *Milne-Redhead*, nom. nov. [Acanthaceae]. *Duvernoia salviiflora* Lindau in Engl. Jahrb. **20,** 42 (1894); Engl. Prantl, Pflanzenfam. **4,** 3B, 339 (1895) ; Engl. Pflanzenw. Ost-Afr. C, 372 (1895). *Justicia salviiflora* (Lindau) C.B.Cl. in Dyer Fl. Trop. Afr. **5,** 205 (1900), non H.B.K. (1817).

Kniphofia (Laxiflorae) Rogersii *E. A. Bruce*, sp. nov. [Liliaceae] ; affinis *K. Thomsoni* Bak., sed bracteis minoribus, foliis majoribus, inflorescentia densiore differt.

Herba perennis, erecta, rhizomatosa. *Folia* pauca, rosulata, linearia, glabra, sensim acuminata, 40–60 cm. longa, basi 2 cm. lata, 18–22-nervia, costa media valde carinata, utrinque sparse papilloso-scabridula, margine papillosa. *Scapus* terminalis, circiter 70 cm. altus, lenticellatus, basi nudus, 1 cm. diametro, glaber, superne tantum bracteatus. *Racemus* 20–25 cm. longus, floribus pendulis basi laxe superne densius dispositis. *Bracteae* triangulari-ovatae, tenuiter acuminatae, 3–4 mm. longae, membranaceae ; pedicelli brevissimi, persistentes, deflexi, basi calycis disarticulati, 3–4 mm. longi. *Perianthium* glabrum, flammeum, 3–3·5 cm. longum, cylindraceum, basi leviter inflatum, supra ovarium constrictum, tubo stricto 5-striato fauce 6–7 mm. diametro, lobis parvis 2 mm. longis ovatis obtusis subaequalibus. *Antherae* inclusae vel leviter exsertae. *Ovarium* ovoideo-conicum, stylo demum breviter exserto. *Capsula* fere globosa, 9 mm. diametro, valvis transverse venosis. *Semina* compresse trigona, margine alata.

Kenya Colony. Aberdare Mts., in swampy ground among high grass in bamboo forest, Gambini Swamp, 2660 m., 6 Aug. 1933, *Gilbert Rogers* s.n. (type) : —flowers vermilion and yellow, comparatively few in a head, drooping. In swampy land at Molo, 2460 m., *R. M. Graham* 2799. In swamp, Limuru, 2150 m., *van*

Someren (Coryndon Museum 5193) :—an erect herb about 2 m. high. Loreko, 3080 m., *Napier* 1344 :—herb 1–1·6 m. high.

The above description was made from the dried specimen originally collected by Mr. C. Gilbert Rogers in the Aberdare Mts. Mr. Rogers has also kindly sent specimens of plants raised from seed, both out-of-doors and in a cool greenhouse. These show slight differences in size and flower colour from the original. The plant appears to vary in height from 3–6 ft.

Anthericum suffruticosum (*Bak.*) *Milne-Redhead*, comb. nov. [Liliaceae]. *Chlorophytum suffruticosum* Bak. in Journ. Bot. **16**, 326 (1878) ; and in Dyer, Fl. Trop. Afr. **7**, 508 (1898). *Chlorophytum rhizomatosum* Bak. in Gard. Chron. ser. 2, **24**, 230 (1885) and in Dyer, Fl. Trop. Afr. **7**, 508 (1898) ; Engl. Pflanzenw. Ost-Afr. C. 140 (1895). *Anthericum campestre* Engl. Pflanzenw. Ost-Afr. C. **138** (1895) ; Bak. in Dyer Fl. Trop. Afr. **7**, 483 (1898). *Dasystachys polyphylla* Bak. in Dyer Fl. Trop. Afr. **7**, 511 (1898).

Kenya Colony. Nyika Country near Mombasa, *Wakefield* s.n. (type). On coral rocks at Mombasa, 5 June 1934, *Napier* (Coryndon Museum 6361) :—a curious herb with bare rough stems, and a tuft of leaves at the apex ; flowers green and white. Rabai, Mombasa, Jan. 1886, *W. E. Taylor* s.n. (British Museum).

Tanganyika Territory. Kilimanjaro, 1500 m. [probably between Kilimanjaro and the coast], *Johnston* s.n. (type of *Dasystachys polyphylla* Bak.). Tanga, Febr. 1893, *Volkens* 190 (type of *Anthericum campestre* Engl.). Sigi Sigoma, 270 m., April 1935, *Bally* s.n. in Herb. Amani :—perennial herb with white flowers ; stems fleshy, 2·5 cm. thick and nearly 2 m. long, procumbent over rocks. Sigi Sigoma, rare, in damp situations among humus on very large rock exposures, 270 m., 24 April 1935, *Greenway* 4043 :—perennial herb with greenish-white flowers on stalks up to 3 dm. tall ; stems 2·5 cm. thick, and nearly 2 m. long, procumbent on rocks ; leaves fleshy, grasslike, up to 3 dm. long ; juice of leaves used by women for tattooing ; root used in a fresh state as an aphrodisiac. Kishamb name ***kilambito.***

Cultivated. Hort. Kew., Aug. 1885, received from Sir John Kirk, and said to come from Zanzibar (type of *Chlorophytum rhizomatosum* Bak.). [This plant may have come from the mainland opposite Zanzibar].

Excellent material of this remarkable species both in flower and fruit has recently been received at Kew from Mr. P. J. Greenway. The capsules and seed show that Engler was right in placing the plant in *Anthericum*, but Baker's original epithet *suffruticosum* must replace Engler's *campestre*. The synonymy is surprisingly large for such a distinct species. As will be seen from the field notes, the woody rhizomes up to six feet long grow exposed on the surface of bare rocks, a habit apparently unique in this genus.

1311. **Draba cuzcoënsis** *O. E. Schulz* [Cruciferae-Alyssineae] ; juxta *D. discoideam* Wedd. ponenda, a qua glandulis nectariferis singularibus, racemis fructiferis laxis, siliculis acutis differt.

Herba pumila perennans, florifera 3–7 cm., fructifera usque ad 12 cm. alta. *Radix* primaria descendens, ramosa, multiceps ; caudicis rami conferti, breves, inferne petiolis foliorum emortuorum persistentibus emarcidis albidis nitentibus linearibus usque 10 mm. longis 1–1·5 mm. latis dense squamati, superne folia rosulata ferentes et caespitem densum 1·5–4 cm. latum formantes. *Caules* nonnulli (1–3) simplices, 0·5–1 mm. crassi, parce foliosi, pilis stipitato-bifurcis et ramosis raris simplicibus usque ad sepala (incl.) hirti. *Folia* basalia oblongo-obovata, apice obtusiuscula, integra, basin versus in petiolum brevem angustata, 1–2·5 cm. longa, superne 0·25–0·5 cm. lata ; caulina sessilia, minora, pauca tantum, ovata, summa linearia ; omnia pilis simplicibus usque 0·75 mm. et brevioribus ramosis utrinque hispida et ciliata. Racemus initio capitato-confertus, dein elongatus, 10–20-florus, inferne saepe bracteatus. *Pedicelli* 5–2 mm. longi. *Flores* minuti. *Sepala* 2 mm. longa, exteriora late oblonga, interiora latissime ovata, omnia apice rotundata, late hyalino-marginata, dorso hispida. *Petala* flava, 3·2 mm. longa, oblongo-obovata, apice minute emarginata, paucivenosa. *Stamina* 2–2·2 mm. longa, filamenta basin versus dentiformiter dilatata ; antherae breviter ovoideae, fere 1 mm. longae. *Glandulae* nectariferae laterales binae, majusculae, triangulares, ad lineam mediam elongatae. *Pistillum* anguste ampullaceum ; ovarium ovulis 18, glabrum ; stylus conicus, brevis ; stigma punctiforme. *Siliculae* in pedicellis 8–6 mm. longis adscendentibus continuae, oblongo-ellipsoideae, compressae, 6–9 mm. longae, 3 mm. latae, apice acuto stylo 0·5 mm. longo coronatae, valvis glabris, nervo medio percursis, obscure viridibus vel nigro-violaceis ; septum completum. *Semina* ovoidea, 1 mm. longa ad 0·75 mm. lata, brunnea, testa tuberculata.

PERU. Dept. Cuzco : near Cuzco, alt. 4000 m., *Dora B. Stafford* 264 : " flowers yellow".

1312. **Ceropegia Stentiae** *E. A. Bruce* [Asclepiadaceae] ; affinis *C. Barklyi* Hk. f. sed foliis linearibus, corollae lobis longioribus, tubo valde incurvo, coronae lobis interioribus linearibus angustioribus longioribus differt.

Herba perennis, erecta, simplex, vel supra basin ramosa, 8–12 cm. alta, tubere ellipsoideo 2 cm. longo 3 cm. lato. *Caules* striati, sparse puberuli, maturi demum glabri, dense foliati, internodiis circiter 5 mm. longis. *Folia* erecto-patentia, subsessilia, anguste linearia, glabra, acuta, basi cuneata, 4–6 cm. longa, 2–3 mm. lata, margine revoluta. *Flores* axillares, solitarii, pedicellis circiter 1 cm. longis glabris vel sparsissime puberulis. *Sepala* lineari-lanceolata, glabra

vel leviter puberula, acuminata, 3–4 mm. longa. *Corollae tubus* cylindricus, curvatus, 2–3 cm. longus, basi 3–4 mm. diametro paulo ampliato, duobus trientibus inferioribus horizontaliter triente superiore verticaliter dispositis, angulo recto inflecto, fauce dilatato 6–7 mm. diametro, extra glaber, fusco- vel rubro-purpureus, e sinubus ad basin lineis pallide viridibus ornatus, intus supra basin sparse villosus ; lobi 2·5–4 cm. longi, filiformi-lineares, e basi ovata erecti, apice latiores et cohaerentes, intra basin villosi, margine inferne pilis purpureis ciliato, ceterum glabri. *Corona exterior* fere cupuliformis, lobis 5 subquadratis minute 3-lobulatis 1·5 mm. longis ; interior membranacea, lobis 5 linearibus 2·5 mm. longis apice recurvatis.

Transvaal. Waterberg ; Ridding Meads, Dec. 1912, *Miss S. M. Stent* 10179 (typus) ; Mosdene, Naboomspruit, on basaltic loam, *E. E. Galpin* M. 215 : " corolla-tube greenish with brown stripes ".

1313. **Ceropegia turricula** *E. A. Bruce* [Asclepiadaceae] ; affinis *C. Barklyi* Hook. f., sed foliis linearibus, lobis corollae brevibus pilis purpureis ornatis, lobis coronae interioribus linearibus differt.

Herba perennis, erecta, simplex vel supra basin ramosa, 8–15 cm. alta ; caules breviter crispe brunneo-pubescentes, internodiis circiter 5 mm. longis. *Folia* erecto-patentia, subsessilia, anguste linearia, glabra vel pilis paucis obtecta, acuta vel subacuta, basi cuneata, 5–9 cm. longa, 1·5–3 mm. lata, margine revoluta leviter undulata. *Flores* axillares et terminales, solitarii, erecti, pedicellis 5–8 mm. longis sparse brunneo-pubescentibus. *Sepala* linearilanceolata, sparse brunneo-pubescens, acuminata, circiter 4 mm. longa. *Corollae tubus* circiter 2·5 cm. longus, erectus, basi 4 mm. latus, supra medium paulo contractus, fauce dilatato 8 mm. diametro, intus apicem versus purpureo-hirsutus, extra glaber, purpureo- et subflavido-notatus ; lobi late lineares, erecti, 9 mm. longi, 2 mm. lati, basi deltoidei, apice obtusi, cohaerentes, pilis purpureis vibratilibus ornati. *Corona exterior* 5-lobata, lobis poculiformibus 2 mm. longis apice bifidis, segmentis anguste triangularibus acutis 0·8 mm. longis margine longe ciliatis ; interior 5-lobata, lobis erectis glabris lineari-filiformibus 4 mm. longis apice recurvatis.

Transvaal. Mosdene, Naboomspruit, in basaltic loam, 31 Jan. 1919, *E. E. Galpin* M. 697 (typus), M. 216.

1314. **Streptocarpus** (**Eu-Streptocarpus**) **pumilus** *B. L. Burtt* [Gesneriaceae] ; species nova nulli arcte affinis, fortasse *S. Bolusi* C. B. Clarke proxima, sed omnibus partibus minoribus et ovario subglabro distinguitur.

Herba parva, monophylla, subacaulis, hypocotylo usque ad 3 cm. longo apice folium unum cotyledonare gerente. *Folium* ambitu et magnitudine variabilis, exemplari alio lineari-lanceolatum, 3·5 cm. longum et 4 mm. latum, alio ovato-lanceolatum 2.5 cm. longum et

1.2 cm. latum, margine crenulato-serrata, supra et subtus pilis rigidis pubescens. *Inflorescentia* plerumque solitaria, pauciflora, cymosa, interdum ad florum unum redacta. *Pedunculus* ad 3·7 cm. longus, glaber vel sparsissime pubescens. *Bracteae* (semper praesentes ?) filiformes, 1 mm. longae. *Pedicelli* graciles, circiter 1·5 cm. longi, praecipue apicem versus glanduloso-pubescentes. *Calyx* fere ad basin 5-partitus ; segmenta anguste lanceolata, 2 mm. longa, extra sparse pubescentia. *Corolla* 1·2 cm. longa, extra sparse pubescens ; tubus leviter arcuatus, 9 mm. longus, fauce leviter dilatatus, ore obliquo ; lobi circiter 3 mm. longi et 1.5 mm. lati, latero-inferiores paullum latiores, omnes obtusi. *Stamina* 2 ; filamenta corollae basi 6 mm. distante inserta, 3 mm. longa, complanata, glabra ; antherae 0·75 mm. longae, cohaerentes. *Discus* annularis, levissime lobatus. *Ovarium* 2 mm. longum, sparse pubescens, in stylum 8 mm. longum apicem versus glabrescentem transiens ; stigma capitatum. *Fructus* more generis spiraliter tortus, 1 cm. longus.

S. Rhodesia. Rusapi, " in shelter of boulders ; flowers mauve, abundant in ' colonies ' ", 1 Jan. 1935, *F. Eyles* 8359.

1315. **Streptocarpus** (**Eu-Streptocarpus**) **umtaliensis** *B. L. Burtt* [Gesneriaceae] ; species nova ex affinitate *S. montani* Oliv., a qua capsula longiore, filamentis apices versus glandulosis et floribus albis satis recedit.

Herba acaulis, plerumque folio uno cotyledonari. *Folium* ad 25 cm. longum sed apice mortuo et praefracto*, 5–10 cm. latum, marginibus denticulato-serratis, utrinque, sed praecipue subtus in nervis, pilis rigidis appressis tenuiter vestitum ; nervi laterales inter se 0·5–1 cm. distantes, angulo 45° ascendentes. *Inflorescentia* solitaria vel 3–4 e basi folii orientes et tunc una aliis multo maior. *Pedunculus* inflorescentiae maximae 10–20 cm., aliarum 3–10 cm. longus, breviter et patente pubescens. *Flores* numerosi, binati, cymose dispositi. *Bracteae* ramorum primorum inflorescentiae 2–4 mm. longae, pubescentes, saepe caducae, aliorum minores vel absentes. *Pedicelli* 5–10 mm. longi. *Calyx* fere ad basin 5–partitus ; segmenta anguste lanceolata, 2 mm. longa, trinervia, basi 0·5 mm. lata, extra et marginibus rigide pubescentia. *Corolla* inflato-tubularis, fauce subtus leviter ventricosa, 1·3 cm. longa, lobis 5 obtusis circiter 2 mm. longis et fere aequilatis, extra pubescens. *Discus* annularis, vix 0·5 mm. altus. *Stamina* 2, corollae basi 2·5 mm. distante inserta ; filamenta 3 mm. longa, apices versus glandulosa ; antherae dorsifixae, 1·5 mm. latae, inter se cohaerentes. *Pistillum* 9 mm. longum ; ovarium dense pubescens, in stylo aequilongo angustatum ; stylus apicem versus glabrescens, stigmate capitato instructus. *Fructus* (maturus ?) anguste cylindraceus, spiraliter tortus, 3·5 cm. longus.

*In *Streptocarpus* the cotyledonary leaf which enlarges continues to grow throughout the life of the plant. The growing region is near the base of the leaf and as growth takes place the leaf apex withers and dries back ; it is therefore impossible to give an absolute length for the leaves of these plants.

S. Rhodesia. Umtali, " common forest epiphyte with white flowers ", 1560 m., 19 Feb. 1926, *F. Eyles* 4475 (typus). Umtali, " on rocks and trees in forest ", 1500–1800 m., 1 Feb. 1932, *Miss A. Cripps* (6799 in Eyles herb.)

The floral resemblances between *S. umtaliensis* and *S. montanus* are so strong, that there can be little doubt that the two species are closely related. According to the classification at present in use, however, *S. montanus* must be placed in the section *Rosulati*, *S. umtaliensis* in the *Unifoliati*. Indeeed these two species provide a clear indication that this subdivision of the genus is artificial and it is probable that in the subgenus *Eu-Streptocarpus* characters drawn from the shape of the corolla will eventually prove of greater value in the delimitation of natural sections.

1316. **Dioscorea** (**Stenocorea**) **Garrettii** *Prain et Burkill* [Dioscoreaceae]; species cum *D. daunaea* Prain et Burkill, comparanda, sed foliis minoribus atque floribus minoribus haud reflexis facile distinguenda.

Partes hypogaeae ignotae. *Caulorum* sinistrorsum volubilium partes superiores adhuc tantum visae, glabrae, inermes, liris crebris parum elevatis notatae, ubi floriparae ad 2 mm. crassae. *Folia* alterna, simplicia, basi alte cordata, apice brevius acuminata, ad 12 cm. longa, ad 6 cm. lata, pertenuia, 7-nervia, supra glabra, subnitida, intense viridia, subtus pallide viridia: nervi primarii nervo mediano proximi ab hoc sensim divergentes ad apicem usque attingentes: paris secundi nervo mediano abruptius divergentes et ad laminam mediam desinantes: paris tertii per lobos basales meantes ad laminae marginem sistant: secundarii spatia interjecta transeuntes quam reticulationem vix manifestiores: nervi primarii supra parum, subtus distincte elevati: petiolus ad 4 cm. longus.

Flores maris pedicellati, ad 50, inter se 2–5 mm. remoti, secus axes racemorum spiciformium dispositi; axes ad 20 cm. usque longi, ad basin interdum ramosi, glabri, pertenues, leviter angulati: pedicelli breves, 0·25–0·5 mm. longi, cum axe angulos rectos efficientes: bracteae sublanceolatae, 1 mm. longae, glabrae, sublucidae, pedicellos haud amplectentes; bracteola ovata, parum acuminata, 0·5–0·75 mm. longa, perlucida. *Perianthii* limbus subrotatus, margine axin tangente et nonnulla ex parte eum amplectente: tubus aliquatenus infundibuliformis, 0·5 mm. altus. *Sepala* ovata, apice late obtusa, sub anthesin horizontalia vel parum recurva, 1-nervia, 1·5 mm. longa. *Petala* cum sepalis subconformia vel leviter sursum reflexa et apice magis rotundata. *Stamina* 6, ad marginem disci inserta; filamenta erecta sed superne sub antheras eminus conniventes incurva; antherarum lobi quam lati vix longiores. *Gynoecium* conicum, parvum, apiculis 3 coronatum.

Planta foeminea ignota.

Siam. Doi Chieng-dao, *Garrett* 972 (typus); Muang Ngao, prope Lampang, *Put* 4007.

1317. **Dioscorea (Enantiophyllum) hainanensis** *Prain et Burkill* [Dioscoreaceae] ; species e grege *D. alatae* Linn., ad *D. Fordii* Prain et Burkill, et ad *D. kraticam* Prain et Burkill, proxime accedens, sed ab eis propter laminam foliorum in petiolum angustatum discrepans, et cum eis ob petiolos longiores a *D. brevipetiolata* Prain et Burkill distans.

Partes hypogaeae nondum visae. *Caulorum* partes superiores adhuc tantum lectae glaberrimae, inermes, rigidae, liris parum notatae, ad 4 mm. usque crassae, dextrorsum volubiles. *Bulbillae* haud visae. *Folia* plerumque opposita, late lanceolata vel lanceolato-ovata, majora apud basin in petiolum obtuse angustata, minora ibidem subacute angustata ; apice aliquatenus acuminata ; ad 10 cm. usque longa, ad 3·5 cm. usque lata, 3–5-nervia ; supra glabra, hebetia, nervis primariis distinctis ceteris vix conspicuis ; subtus glabra, paene concolorata, nervis primariis fere elevatis, secundariis prominulis vel distinctis, nervulis obscure reticulatis : nervi paris primi a nervo centrali sensim divergentes ad apicem attingentes : nervi secundarii spatia interjecta transeuntes : petiolus ad 3 cm. longus.

Flores maris spicati, spicis in inflorescentias sine foliis ad 18 cm. usque longas decurvas aggregatis. *Axes* inflorescentiarum glabri, graciles, paene angulati ; axes spicarum glabri, anfracti, distincte angulati, floribus in flexibus insertis. *Bracteae* minutae, 0·3 mm. tantum longae, bases alabastrorum elongatorum vix circumcludentes. *Sepala* late ovata, 1·25 mm. longa, obtusa, maculis rubro-brunneis notata. *Petala* sepalis minora, 0·75 mm. longa, maculis rubro-brunneis notata. *Stamina* 6, incurva, 0·5 mm. longa, filamentis quam antheris longiores.

Flores foeminei ignoti.

Hainan : in ditione Taam-yeung, in vallecula parva apud Mei-yeung-tsuen, *Ts'ang Wai Tak* 787 (typus). Sha-po-shan apud Tin-woh, *Ts'ang Wai Tak* 604 !

1318. **Dioscorea (Lasiophyton) Scortechinii** *Prain et Burkill* var. **parviflora** *Prain et Burkill* [Dioscoreaceae] ; a typo spicis maris paullulo minoribus griseis (nec rufescentibus), sepalis petalisque minoribus (0·75 mm. longis) tenuioribus differt.

Hainan, sine locis, *C. Wang* 33578 (typus), 33926.

The type of *D. Scortechinii*—a specimen obtained by Father Scortechini and bequeathed by him to the Royal Botanic Garden, Calcutta—carries mature fruit. When we described it, we identified with it a fruiting specimen from Mount Bavi in Tonkin. In 1917 we were able to procure the male plant from Scortechini's locality and now we have received the male plant from Hainan : we find that they differ in the size of the flowers and give the varietal name above to the Hainan plant. Whether the Tonkin plant is the type or the variety, we do not yet know ; but the geographic position of the Tonkin locality suggests that it is the variety.

The female plant has been collected in Hainan (*C. Wang* 34279 and *H. Y. Liang* 63347) in specimens which, if not ideal, are true as far as they go.

1319. **Littonia rigidifolia** *Bredell* [Liliaceae] ; affinis *L. modestae* Hook., sed foliis angustioribus et rigidioribus valde distinguitur.

Herba tuberosa. *Tuber* parvum, circiter 1 cm. diametro, carnosum *Caulis* plus minusve 35 cm. longus, erectus, simplex, glaber, sursum foliosus, basin versus foliis (plerumque 1 vel 2) alternis vaginantibusque praeditus. *Folia* sursum ternatim verticillata, sessilia, 3–8·5 cm. longa, 0·2-0·8 cm. lata, linearia vel lineari-lanceolata, apice acuta et cirrhifera, glabra, marginibus involutis et costa infra conspicua. *Flores* solitarii, axillares. *Pedicelli* 0·6–2·2 cm. longi. *Perianthium* viride vel flavidum ; tubus usque ad 5 mm. longus, segmenta usque ad 1·7 cm. longa nonnunquam breviora, usque as 0·8 cm lata, vel ovato-lanceolata, apice paullo acuminata, intus basi appendicibus duabus ciliatis producta. *Stamina* perianthio breviora ; filamenta perianthium aequantia ; antherae 6 mm. longae, linearioblongae. *Ovarium* 2 mm. longum, multiovulatum ; stylus 7 mm. longus ; rami stylorum 3, falcati. *Fructus* ignotus.

Transvaal. Waterberg distr. ; Geelhoutkop, *van der Merwe* in *Nat. Herb. Pretoria* 20299 (typus) and 20488 ; Kafferskraal, on the Great Waterberg Plateau, 30 miles west of Naboomspruit, *Galpin* 11672.

1320. **Pothos Brassii** *B. L. Burtt* [Araceae –Pothoideae] ; specie nova in serie *Longevaginatarum* sectionis *Allopothos* iuxta *P. Barsberianam* Schott ponenda, a qua spatha et spadice breviore (illa spadici aequilonga), pedunculo graciliore, foliis basi leviter cordatis distinguitur.

Planta scandens, glabra, ramulis quasi infra-axillaribus (quod gemma vaginam folii fulcrantis perrumpit). *Folia* alterna, petiolata; petiolus 5 cm. longus apice incrassatus et geniculatus, fere ad geniculam alatus, alis 2–3 mm. latis basi vaginam formantibus ; lamina anguste elliptica, 10 15 cm. longa, c. 3–4 cm. lata, ad apicem acuminata, basi leviter cordata ; nervi collectivi utrinque 3, 2 marginem approximantes, 1 c. 4 mm. intra marginem currens. *Pedunculus* c. 6 cm. longus. *Spatha* late lanceolata, c. 3 cm. longa et 1 cm. lata, apice marginibus incurvis cuspide 1 mm. longa formantibus. *Spadix* spatha aequilongus, 0.5 cm. crassus. *Flores* hermaphroditi. *Tepala* 6, late obovata, 1·25 mm. longa, 1 mm. lata, apice rotundata, dorso plica longitudinali (interiora) vel transversa (exteriora) instructa. *Stamina* 6, 1·5 mm. longa, filamentis complanatis, antheris parvis. *Ovarium* 1 mm. altum, stigmate subsessili.

North Queensland. Slopes of Thornton Peak, "a large, leafy climber ; inflorescence white", 300 m., March 15, 1932, *Brass* 2311.

P. Brassii is the first species of the section *Allopothos* to be recorded from Australia ; the two other Australian species of this genus are *P. Brownii* Domin and *P. longipes* Schott and both belong to the series *Longipedes* of the section *Eu-Pothos*.* *P. Barberiana* Schott with which *P. Brassii* has been compared in the diagnosis, is a native of the Malay Peninsula, Sarawak and Borneo ; the leaves are relatively broader and have closer lateral nerves and the peduncle is stouter than in *P. Brassii*.

XLVII—NOTES ON THE GENUS SCHIMA AND ON THE CLASSIFICATION OF THE THEACEAE-CAMELLIOÏDEAE.

H. K. Airy-Shaw.

The Genus Schima.

The most recent as well as the most complete account of the genus *Schima* is that by Melchior in Engl. Pflanzenf. ed. 2, **21**, 138 (1925), where a partial key to most of the known species is provided. The author remarks that a monograph of the genus is much to be desired. Ample support for this opinion has been found during a recent examination of the genus in the course of naming the material collected by the Oxford University Expedition to Sarawak in 1932. The following criticisms and emendations of Melchior's treatment are the outcome of this investigation, and are arranged under the key-lettering employed by him in the Pflanzenfamilien.

A. Here must be inserted **Schima sinensis** (*Hemsl. et Wils.*) *Airy-Shaw*, comb. nov. (*Gordonia sinensis* Hemsl. et Wils. in Kew Bull. 1906, 153 ; Melch. in Engl. op. cit. 137). Although the original authors pointed out (correctly) that this species was nearest to *G. Lasianthus* (L.) Ellis (the only species of *Gordonia* Sect. *Lasianthus* DC.), Melchior places it at the end of his Sect. *Nabiasodendron* and states that it differs so greatly from the species of that section that its systematic position seems to him doubtful ! *Schima sinensis* is actually closely related to *S. khasiana* Dyer, from which it differs principally in its orbicular, externally glabrous sepals, almost glabrous petals, and ovoid (not spherical) shortly-beaked capsule. In the last character there is a definite approach to *Gordonia Lasianthus*. Melchior certainly seems right in placing this group at the beginning of the genus. *S. antherisosa* Korth., however, which he includes here, is indistinguishable from *S. crenata* Korth. (see **B. b.** β. I., *infra*).

A further species of this alliance is **S. Forrestii** *Airy-Shaw*, sp. nov.† It may be readily distinguished from both *S. khasiana* and *S. sinensis* by its very large flowers (nearly twice as large), by its

*Engl. Pflanzenr. Arac.—Pothoid. **22**, 36 (1905)

† **Schima Forrestii** *Airy-Shaw*, sp. nov. insignis, a proxima *S. khasiana* Dyer foliis crassius coriaceis siccitate subtus glaucescentibus supra cinereo-

shorter and much more robust glaucous peduncles, and by the thicker consistency of its greyish-green leaves. The sepals and young petals are externally sericeous as in *S. khasiana*.

B. b. α. **S. superba** *Gardn. et Champ.* Probably synonymous with this is *S. liukiuensis* Nak. in Bot. Mag. Tok. **32**, 223 (1918), judging from Nakai's description and from a specimen in Herb. Kew. (open foothills, Nago, Okinawa [cf. Nakai's localities], 14 Apr. 1912, *W. R. Price* 1412) which is doubtless Nakai's species. *S. liukiuesis* is not mentioned by Melchior.

B. b. β. I. **S. Noronhae** *Reinw.* has *entire* leaves, as described by Blume ; it should therefore come in group **C.** Its place in the present group (**B**) should be taken by **S. crenata** *Korth.*, which is not mentioned by Melchior.

B. b. β. II. *S. confertiflora* Merr. is doubtless synonymous with **S. superba**. Handel-Mazzetti (Symb. Sin. **7**, 396 : 1931) treats both species as synonymous with *S. crenata* Korth. In the latter, however, the leaves are usually thinner in texture, the peduncles very much longer, and the sepals silky-pubescent on the back and spreading or reflexed, not glabrous on the back and suberect or adpressed to the corolla as in *S. superba*.

C. a. S. argentea *Pritz.* To this species, *S. Mairei* Hochr. must certainly be reduced ; see Hand.-Mazz. Symb. Sin. **7**, 397 (1931). *S. Mairei* was described as having peduncles about 1·5 cm. long,

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viridibus, pedunculis brevioribus crassioribus, floribus subduplo maioribus recedit.

Arbor 12–18 m. alta. *Ramuli* robusti, subglauco-pruinosi, glabri, lenticellis minimis pallidis conspersi. *Folia* oblongo-lanceolata, usque 21 cm. longa (petiolo circiter 2 cm. longo incluso) et 6·5 cm. lata, basi leviter angustata vel subrotundata, apice breviter acuminata, margine haud crebre subcrenato-serrata, utraque pagina glabra, subtus opaca et subglauca, costa et rete venularum argute prominente, supra nitidula et cinereo-viridia, costa impressa, rete venularum obtuse prominulo ; nervi laterales iis *S. khasianae* simillimi. *Flores* speciosissimi, expansi 6–7 cm diametro, circiter 6 apicem ramulorum versus haud confertim dispositi. *Pedunculi* rigidi, crassi, 2–3 cm. longi, 3–4 mm. diametro, decurvi vel recti, ancipites, in calycem sensim ampliati, ut ramuli glauci et lenticellosi, inferne puberuli vel glabrescentes, supra bracteolas magis tomentelli. *Bracteolae* suboppositae, caducae, 4-10 mm. infra pedicelli apicem sitae. *Calyx* cupulari-turbinatus, parte tubulari apice circiter 1 cm. diametro tomentella ; sepala suborbicularia, 6–8 mm. diametro, extra dense sericea, marginem ciliatum versus glabrescentia, intus infra medium glabra, supra medium adpresse sericea, patula vel patentia. *Petala* plus minus obovata, 3–3·5 cm. longa, 2–3 cm. lata, extimum valde cucullatum extra totum sericeum, cetera extra basin versus tantum sericea, omnia intus glabra, ochroleuca. *Stamina* numerosissima, 1·5–2 cm. longa ; antherae brevissime oblongae, 1–1·5 mm. longae. *Ovarium* late ovoideum, circiter 5 mm. diametro, leviter sed distincte sulcatum, dense adpresse sericeum, apice glabro in stylum crassum glabrum circiter 1 cm. longum attenuato, stylo in stigma subquinquelobum vertice planum circiter 4 mm. diametro ampliato. *Capsula* ignota.

China. Yunnan : open situations on the hills to east of Teng-yueh, lat. 25° N., 1800 m., June 1912, *Forrest* 8341 (Herb. Edin., Herb. Kew.) : " Tree of 40-60 ft. Flowers creamy-white, fragrant."

not 2–4 cm. as stated by Melchior. A further synonym of *S. argentea* is probably *S. bambusifolia* Hu in Journ. Arn. Arb. **11,** 224 (1930), from Kwangsi, but no authentic material has been seen. The following specimen in Herb. Kew. adds *S. argentea* to the Indian flora :—Assam : Manipur State, Ching Sow, 2100 m., fr. Apr. 1882, *G. Watt* 6718. In Formosa a form occurs with glabrous calyx and corolla : South Cape, *Schmürer* in *Henry* 366, 659 (Herb. Kew.).

C. b. *S. boninensis* Melch. is a later homonym, and also a synonym, of *S. boninensis* Nak. in Bot. Mag. Tok. **32,** 222 (1918), the correct name for which is **S. Mertensiana** (*Sieb. et Zucc.*) *Koidz.* in Bot. Mag. Tok. **44,** 107 (1930), based on *Cleyera Mertensiana* Sieb. et Zucc. Fl. Jap. **1,** 154 (1835).

C. c. α. *S. brevipes* Craib appears to be merely a form of **S. Wallichii** (*DC.*) *Choisy* ; the foliage is identical.—*S. bancana* Miq., and also *S. Beccarii* Warb. (1922 ; omitted by Melchior) appear to be short-peduncled forms of **S. Lobbii** (*Hook. f.*) *Pierre*, included by Melchior (l.c. 137) under *Gordonia* Sect.*Nabiasodendron*, **B. a.** β. I.

C. c. β. *S. mollis* (Wall.) Dyer, at present known only from fruiting material, remains a problematical plant. It is probably only a form of **S. Wallichii** (*DC.*) *Choisy*.—**S. sericea** *Airy-Shaw* (in Hook. Ic. Pl. t. 3309) comes here.

D. a. The relationship of the very distinct **S. brevifolia** (*Hook. f.*) *Baill. ex Stapf* is probably with *S. Mertensiana* (S. et Z.) Koidz., as indicated by the large size of the sepals and petals.

D. b. *S. stellata* Pierre is **Craibiodendron stellatum** (*Pierre*) *W. W. Smith* in Kew Bull. 1914, 129 (*C. shanicum* W. W. Sm. 1911)—*Ericaceae.*

The Classification of the Camellioïdeae.

A very conservative policy has been adopted by Melchior in his treatment of the *Theaceae* for the second edition of the Pflanzenfamilien. This is unfortunate, since the careful anatomical work of Beauvisage (Ét. anat. fam. *Ternstroem.*, 1918 ; Contrib. ét. anat. fam. *Ternstroem.*, 1920) has shown clearly that, for instance, the tribes *Bonnetieae* and *Pelliciereae* are each sufficiently distinct from the *Theaceae* (*sensu stricto*) to warrant family rank, and that the genus *Asteropeia* truly belongs with the *Flacourtiaceae* (*Samydaceae*) where it was originally placed. Hallier (in Beih. Bot. Centralbl. **34** (2), 35 : 1916) has produced strong evidence to show that the genus *Tetramerista* is a member of the *Marcgraviaceae*, but Melchior (in Engl. l.c. 125) and also Gilg and Werdermann (ibid. 100) appear to consider this evidence insufficient. Similarly, within the *Theaceae* proper, Melchior has rejected the results of Pitard's anatomical work (in Act. Soc. Linn. Bord. **57,** Cpt. Rend. Sci. L : 1902), in which it is demonstrated that the genera *Schima* Reinw., *Lacathea* DC. (i.e. *Franklinia* Marsh.) and *Gordonia* Ellis (*sensu stricto*, i.e. excluding all species except the type, *G. Lasianthus* (L.) Ellis) form a natural group widely different from the group comprising *Pyrenaria* Bl.,

Haemocharis Salisb. (i.e. *Laplacea* H. B.K.) and the spurious Gordonias (i.e. *Polyspora* Sweet ex G. Don, 1831 ; syn. *Nabiasodendron* Pitard), which are much more closely related to *Camellia, Tutcheria,* etc. A further flaw in Melchior's classification is his inclusion of the genera *Stewartia* and *Franklinia* under the key-heading : " Sepals unequal in size and gradually passing into the corolla " : actually the sepals and petals are as distinct in these two genera as they are in *Schima.* He moreover associates with *Schima* the genus *Hartia* (since justifiably reduced to *Stewartia**) to form the subtribe *Schiminae,* under the key-heading : " Sepals small..... " ; but the sepals of *Hartia* are large and foliaceous, exactly as in *Stewartia serrata* Maxim. and *S. sinensis* Rehd. et Wils.

The following modified version of Melchior's arrangement of the brachyantherous *Theaceae* is therefore proposed. Only characters of external morphology are here mentioned, but those interested will find them strikingly corroborated in most instances by the anatomical evidence published by Pitard (l.c.).

Antherae breviter ovoideae, versatiles ; fructus capsularis, dehiscens (rarissime drupaceus : *Pyrenaria*).....A. **Camellioïdeae**

Pedicelli plerumque pluribracteati ; sepala a petalis haud abrupte dissimilia, spiraliter disposita ; capsulae columella praesens, persistens.....I. CAMELLIEAE

Semina exalata .....I. 1. *Camelliinae*
Piquetia, Stereocarpus, Camellia, Tutcheria

Semina alata, vel fructus drupaceus ..... I. 2. *Laplaceinae***
Laplacea, Polyspora† (*Nabiasodendron*), *Pyrenaria*

Pedicelli semper bibracteolati ; sepala et petala quina, abrupte dissimilia .....II. GORDONIEAE‡

Sepala elongato-oblonga, rarius suborbicularia, herbacea ; capsulae colomolla deficiens ; semina anguste alata vel exalata ; folia decidua, raro sempervirentia. II. 1. *Stewartiinae*§
Stewartia (incl. *Hartia*)

Sepala suborbicularia, rigida ; capsulae columella praesens, persistens ; semina alata (raro exalata : *Franklinia*) ; folia semper virentia, rarius decidua.....II. 2. *Gordoniinae*‖
Franklinia, Gordonia s. str., *Schima*

Antherae elongatae, basifixae ; fructus varius, indehiscens.....
B. **Ternstroemioïdeae**

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* *Vide* Cheng in Contrib. Biol. Lab. Sci. Soc. China, **9**, 202 (1934). *Hartia sinensis* Dunn (*Stewartia pteropetiolata* Cheng, nom. nov.) is, however, so closely related to *S. sinensis* Rehd. et Wils. that it does not seem advisable to distinguish it as a section, as proposed by Cheng, merely on the basis of its evergreen habit.

****Laplaceinae** *Airy-Shaw,* subtrib. nov. *Laplace*[*e*]*ae* DC. in DC. Prodr. **1** 526 (1824), quoad *Laplaceam* tantum ; *Gordoniinae* Melch. in Engl. op. cit. 135 (1925), excl. *Gordonia Lasiantho* (L.) Ellis (typo nominis generici *Gordoniae* !).

† **Polyspora** *Sweet,* Hort. Brit. ed. 1, 61 (1826), sine descr. ; G. Don, Gen. Syst. i. 574 (1831), descr.—Type (only original) species : **P. axillaris** (*Roxb. ex Lindl.*) *Sweet,* l.c., based upon *Camellia axillaris* Roxb. ex Lindl. Bot.

(Footnotes continued overleaf)

XLVIII.—NOTES ON AFRICAN GRASSES: XX.*

C. E. Hubbard.

The following new grasses will be more fully described in a later number of the Kew Bulletin.

Danthoniopsis intermedia *C. E. Hubbard*, sp. nov.; affinis *D. minori* Stapf et C. E. Hubbard, et *D. wasaënsi* (Vanderyst) C. E. Hubbard, ab illa culmis 2-nodibus gracilioribus, foliorum laminis usque ad 4·5 mm. latis, glumis fere glabris, gluma inferiore subacuta; ab hac culmis rigidis paniculam versus glabris, nodis villosulis, foliorum laminis angustioribus, paniculis linearibus angustioribus, glumis et lemmate sterili angustioribus differt.

Northern Rhodesia: Broken Hill, *Broken Hill Govt. School* 12.

Helictotrichon Thomasii *C. E. Hubbard*, sp. nov.; affine *H. angusto* C. E. Hubbard, culmis paniculam versus asperulis, foliorum vaginis retrorsum scaberulis, laminis demum reflexis, panicula angustiore circiter 6 mm. lata, glumis brevioribus, lemmatibus 7-nervibus, arista breviore usque ad 1 cm. longa differt.

Sudan: Mongalla Province; Imatong Mtns., Mt. Kineti, 2700 m., *Thomas* 1862.

Koeleria cristata (*L.*) *Pers.* var. **shiraënsis** *C. E. Hubbard*, var. nov.; a var. *convoluta* (Hochst.) C. E. Hubbard (*K. convoluta* Hochst.), culmis validiusculis, panicula 1–2 cm. lata, spiculis 6–7·5 mm. longis, glumis longioribus 5–7·5 mm. longis, lemmatibus longioribus 5–7 mm. longis differt.

Tanganyika Territory: Shira Mtns., west of Mt. Kilimanjaro, 3000 m., *Haarer* 1122A.

Pentaschistis ruwenzoriensis *C. E. Hubbard*, sp. nov.; a *P. borussica* (K. Schum.) Pilger, foliorum vaginis basalibus tenuioribus, laminis planis tenuioribus, paniculis densis, spiculis 7–9 mm.

* Continued from K.B. 1936, 335.

Reg. 349 (1819) (*Gordonia anomala* Spreng. Syst. **3,** 126: 1826).—Syn.: *Antheïschima* Korth. (1842); *Carria* Gardn. (1847); *Dipterosperma* (nec *Dipterospermum*) Griff. (1854); *Nabiasodendron* Pitard (1902); *Gordonia* Sect. *Nabiasodendron* Melch. (1925); *Gordonia* auctt. plurim., non L.

‡ Sensu stricto DC. Prodr. **1,** 527 (1824) (excl. *Gordonia* Sect. *Haemocharite*), non sens. ampl. Benth. et Hook. f. et auctt. plurim.

§ **Stewartiinae** *Airy-Shaw*, subtrib. nov. (diagn. uti supra in clavi). *Stuartieae* et *Stuartiées* Choisy, Mém. Fam. Ternstr. et Cam. 47 (1855). *Camelliinae* (quoad gen. *Stewartiam*) et *Schiminae* (quoad gen. *Hartiam*) Melch. in Engl. op. cit. 133 et 139 (1925).

‖ **Gordoniinae** *Melch.* (quoad *Gordoniam Lasianthum* (L.) Ellis tantum), emend. Airy-Shaw; *Schiminae* (quoad gen. *Schimam*) et *Camelliinae* (quoad gen. *Franklíniam*) Melch. in Engl. op. cit. 127 et 138 (1925).

longis, anthoeciis 2·6–3 mm. longis, setis lateralibus 3–5 mm. longis, aristis 11–17 mm. longis differt.

UGANDA : Toro District ; Mt. Ruwenzori, on rocks in River Namwamba, 3090 m., *Taylor* 2903.

Pentaschistis meruensis *C. E. Hubbard*, sp. nov. ; affinis *P. borussicae* (K. Schum.) Pilger, foliorum vaginis basalibus pilosis vel villosis, spiculis plerumque majoribus 6–10 mm. longis, anthoeciis longioribus 3–4 mm. longis, setis lateralibus 4–7 mm. longis, aristis 8–14 mm. longis differt.

TANGANYIKA TERRITORY : Arusha District ; Mt. Meru, dominant plant on sandy ash scree above *Erica* zone, 3600–3750 m., *Burtt* 4062.

Pentaschistis imatongensis *C. E. Hubbard*, sp. nov. ; a *P. borussica* (K. Schum.) Pilger, culmis 1–2-nodibus, foliorum laminis linearibus planis 2–5 mm. latis flaccidis eglanduliferis, paniculis contractis densiusculis, rhachi ramis ramulisque eglanduliferis, pedicellis brevioribus 0·5–4 mm. longis, antheris brevioribus 1 mm. longis differt.

SUDAN : Mongalla Province ; Imatong Mtns., Mt. Kineti, 3000 m., *Thomas* 1834.

Pentaschistis Mannii *Stapf*, ms., sp. nov. ; affinis *P. pictiglumae* (Steud.) Pilger, sed culmis et innovationibus densius caespitosis, innovationibus latioribus, panicula leviter laxiore, pedicellis paullo longioribus 1–5 mm. longis, spiculis paullo longioribus 6–7·5 mm. longis, lemmatum setis lateralibus 2–4 mm. longis, aristis 6–9 mm. longis columna 2–3 mm. longa differt.

SOUTHERN NIGERIA : Cameroons Mtn., in grassland and on bare rocky ground, 2700–4050 m., *Mann* 1351 (type), 2075 ; *Dalziel* 8353 ; *Maitland* 878, 1244, 1249, 1260 ; *Mildbraed* 10894, 10894a.

Danthonia Davyi *C. E. Hubbard*, sp. nov. ; a *D. Macowanii* Stapf, panicula laxiore, glumis leviter angustioribus, lemmatibus brevioribus bilobatis, aristis geniculatis differt.

NYASALAND : Mt. Mlanje, on steep grass slopes of the Lichenya Gorge, 1950 m., *Burtt Davy* 2068/29.

XLIX—MISCELLANEOUS NOTES.

COUNT ERNST SILVA TAROUCA.—We learn with regret that Count Silva Tarouca, the eminent dendrologist, died at Schweigern, Germany, on August 15th, 1936. We are indebted to Prof. K. Domin and to Dr. C. K. Schneider for the following particulars of his life and work.

Count Silva Tarouca was born in 1860 in Moravia. In 1886 he took up his residence at Pruhonice Castle, near Prague, and it

was there that he built up his famous park and arboretum. The site was particularly favourable for such an enterprise, consisting of a series of valleys with well-wooded slopes, lakes, streams and spacious lawns. He employed both native and exotic trees to obtain his landscape effects, many of Wilson's early Chinese introductions finding a place. The great rock garden was his own special care; here he brought together one of the finest collections of alpine plants on the Continent.

About ten years ago the Government of Czechoslovakia purchased the park, but Count Silva continued to direct its activities until his death. It is very gratifying to know that the result of his labours will be permanently preserved for the enjoyment of all lovers of horticulture and dendrology.

Count Silva, who was President of the Czechoslovakian Dendrological Society, published three works in collaboration with Dr. Schneider: "Unsere Freiland-Stauden," "Unsere Freiland-Laubgehölze," and "Unsere Freiland-Nadelhölzer." In addition to his work as a naturalist, he played an important part in the political world, being Minister of Agriculture at Vienna during the war and a member of the Privy Council.

Dr. Schneider writes, "All who have had the good fortune to know Count Silva and his work will mourn the loss of an excellent artist and a great-hearted personality."

Leonard Rodway.—In an obituary notice of Mr. Rodway, published recently in the Kew Bulletin, we regret that it was erroneously stated that the second volume of his treatment of the "Bryophytes of Tasmania," dealing with the *Hepaticae*, had not appeared. We now find that this volume was in fact published in the "Papers and Proceedings of the Royal Society of Tasmania" in 1916, and also as a separate publication. The account deals with species belonging to 63 genera and extends to 95 pages.

Hortus Bergianus.—On September 16th, 1936, the inauguration of the newly erected botanical institute took place in the Hortus Bergianus (Bergianska Trädgården), Stockholm. Many botanists and horticulturists were present, including representatives from the Academy of Sciences. An exhibition of autumn flowers, especially dahlias, was arranged. Professor Fries (the Director) in his address outlined the history of the Garden during the past 50 years. In the new Institute are housed the well-known Bergius Herbarium and the library. There are also work rooms, laboratories and a lecture room, all of which will be a great asset to the staff and to visiting botanists.

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